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Editors' Note

Dear Friends,

Hearty welcome to the second annual issue of **Journal of Education Research**. It is a research journal of the Department of Education published annually by the University of Calcutta.

The first issue was published in 2013. From the very beginning it was successful in evoking intense interest and praise among the fraternity. I hope, the second issue will be able to carry the mantle as well. Two feathers have been added in our cap from this issue : i) publication of an electronic version of the journal for better access among the researchers and ii) incorporation of a new section on book review.

Like the first one, this issue also hosts articles on very pertinent issues seen from different perspectives. Education for all is a universal agenda and it is our constitutional mandate. But till today we are still far behind to reach the goal. For a nation, riddled with the problems of over population, corruption, discrimination of any kind in terms of gender, religion and caste, a sharp and unhealthy divide between the privileged vs. the poor, rural vs. urban, it is really difficult to reach the unreach. This is a concern for all and it has been aptly reflected in the content of the journal. Fifteen articles have been selected for publication in this issue. Out of these fifteen, seven articles tried to examine the concept, problems and extent of education of marginalized population from different perspectives. Other issues, which are equally pertinent in education, life and living of people, like academic stress, professionalism, environmental education, students' experience with mathematics and management education are explored by the researchers as well with due attention. Besides the empirical research articles, we have four thought provoking essays. We are thankful to all our contributors who shared their thought and experience with us.

From the very beginning, it was our motto to encourage the young researchers. That is why we made an exclusive section with the research abstracts of students who received their Ph.D. degree in the last convocation. We congratulate them and hope they will carry the legacy of quality research in their journey to life.
Our whole hearted thanks to Professor Suranjan Das, Vice-Chancellor, University of Calcutta. We are indebted to Professor Dhrubajyoti Chattopadhyay and Professor Mamata Roy, our Pro Vice-Chancellors and Professor Basab Chaudhuri, our Registrar, for their active guidance and inspiration in any academic endeavour we have undertaken. We are fortunate to have a highly esteemed peer review committee who, in spite of their busy schedule, provided thorough and critical inputs for each and every paper.

We hope in near future, it will act as a forum for national and international thinkers and researchers in the field of education. Please join with us in this endeavour and be with us.
Thank you all.

Dr. Debjani Sengupta

Professor, Department of Education, University of Calcutta

Teachers as Leaders in Higher Education*

Sudhanshu Bhusan[1]

It is of interest to examine the identity and role of teacher in Indian higher education. Radhakrishnan Commission on higher education (1948-49) noted that "he (teacher) has to stimulate the spirit of enquiry and of criticism" (p.68). Against the performance oriented view the report notes "His success will be measured not in terms of percentage of passes alone, nor even by the quantity of original contributions to knowledge ... but equally through the quality of life and character of men and women whom he has taught"(p.69). Two features emerge in the identity of teacher from above. Teacher should be an intellectual with critical mind and that he should not be guided by some evaluative criteria rather be judged by the character that he builds. The report further warns against the danger of teacher politicians, low salaries of teachers and demoralisation. It argues in favour of threefold classification or designation of teachers that exists even today, with an additional grade of instructor who could be nurtured into teaching profession. It warns against automatic promotion and salary increase and supports the title of Professor to the person of experience, scholarship and research as well as distinction in teaching. Above idealised view gives a unique identity and role to the teaching profession – promotion of nation building and citizenship of democratic values of the freedom of individual. Liberal education meaning thereby the cultivation of mind is as the heart of it.

Antonio Gramsci argued that there were two broad categories of intellectuals, namely : i) traditional intellectuals such as members of the clergy, scholars and teachers who served the status quo by allowing education to reproduce the existing social structures; and ii) organic intellectuals whom every class produces "naturally" and who serves its interests. The role of community of teacher as organic intellectuals to the society is to generate and disseminate knowledge for state and civil society. The process of the production and distribution of knowledge is formalised through schools, colleges and research institutions, though there are many non-formal ways as well. According to Antonio Gramsci teacher as organic intellectual plays a critical role in simply not reproducing knowledge that supports hegemony but to contest hegemonic power and culture. However, within colleges the relationship between institutional function and critical thought, an essential ingredient or organic intellectual, is much less evident. The predominance of institutional function and relative neglect of critical mind in the teaching community simply helps reproduce knowledge for the benefit of existing class that dominates. It is necessary to understand how a large college system in India encouraged intellectuals but not the organic intellectuals interested in critical inquiry. If indeed it is possible to cultivate organic intellectuals in the undergraduate colleges, colleges shall become the centre of critical discourse and community of teachers a potent source of change in favour of poor and downtrodden as colleges are institutions that exist in close proximity to the society. Teacher as leaders in higher education are supposed to play that role of organic intellectuals.

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* Key Note Address delivered in the Department of Education, Calcutta University on September 5, 2012.

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The formal structure of college is closed by a permeable wall. Within a formal educational structure the teaching community directly engages with the student. It is, therefore, important that the terms of engagement has to be mutually determined in such a manner that both remains satisfied in terms of expected functions and mutual benefits. The ideal community of teachers should govern and be governed by themselves. In this sense governance is internal to the structure of governance, If, however, governance, is controlled by an alien structure not organically linked to the academic community there may arise tensions and conflicts. There may be situations in which teachers may not be the masters of the educational structure within which they operate. They may be subjugated and as subordinate follow the masters through various commands. This process, however, may weaken the role of teacher as organic entity in the educational structure. The more differentiated and fragmented they become they disconnect themselves from the society and are guided more by self-interests. The central argument of the paper is to understand the process of disintegration, differentiation, fragmentation and fracture within an entity called – community of teachers. How teachers have weakened themselves? How in this process were they subjugated? They have lost their identity as liberal educator, as leader in higher education. As a result great injury has been inflicted. There has been the loss of teacher as organic intellectual.

It is of vital importance to understand that permeable wall of educational structure is connected to the organs of state and civil society. It is necessary that this remains connected through vital nerves that conveys what is happening in the society and knowledge is then processed within educational system to be communicated outside and within it. Students are one vital link in this process. But the relationship of educational structure to the state is much more direct in the sense that education structure derives its legitimacy and support from state. Terms of support may be arbitrary or mutually determined. It depends on conflict or confidence that each party enjoys with other. It also reflects what is happening within society? What kind of democratic structure we have evolved and what power structure dominates? Educational structure and community of teachers cannot isolate themselves from what is happening outside it? The crucial point is whether community of teachers in the role as organic intellectuals to the society has lived up to the calls from state and the society. So long as the intellectual leadership is weak state will subject it to follow norms and rules and teaching community will have to follow bureaucratic process which will further weaken the organic role of teaching community for want of autonomy and creative engagement. The substantive issue is whether teaching community is empowered enough to creatively engage with society and state and seek autonomy.

The paper emphasises the point that community of teachers at present are not masters of their own creation and they have become subjected to the internal and external pressures causing fracture in the organic functioning. As a result teaching community has lost the power, prestige and leadership role. It is quite possible that teachers may not have realised that limited space made available to them is part of a design that has weakened them in their own territory. The objective of the paper is to make them realise that "united they stand and divided they fall". It is necessary that systemic forces in this disintegration are known and genesis of the problem understood well. Some of the systemic forces in this disintegration and loss are attempted in this paper. The substantive issue is debate on quality in higher education has evaded the issue on empowerment of teacher as organic intellectual and unless this happens no amount of accountability norms alone, guided by neo managerial approach, can succeed in raising the quality of higher education as understood in Radhakrishnan report way back at the dawn of independence.

What space or autonomy is available to a teacher?

In Indian higher education the colonial innovation of affiliating university system distinguished a university and college. University was an examining body and it was conferred the status of degree awarding power. College affiliated to a particular university was the centre of teaching and learning .University overtime assumed the authority to control quality by various mechanisms such as

(a) Affiliation to a college by the university was subject to inspection respecting the suitability of starting a college with proper ambience, facility and infrastructure.

(b) Curriculum, syllabus, setting of question paper and evaluation of answer script was determined centrally by the university.

(c) Annual examination, numerical mark system was introduced by the university, as repeated examination was difficult to be centrally conducted and grade system was found difficult to be standardised.

(d) In many government colleges managing committee of the college was constituted by the university or state government to decide important matters of quality control and governance with nominal representation from teaching staff.

(e) Recruitment policy of teaching staff was determined by the university or state government and recruitment was centralised at the level of state government or the university, rarely at the level of college with experts decided by the university authorities.

(f) Student admission policy and framework for implementation is determined by the university.

(g) University also retains the authority to determine fees for all colleges – government and government aided.

In addition to above the qualification, promotion, salary scale, engagement of teachers in terms of time allocation is determined by UGC who has the constitutional mandate to maintain standards of higher education.

Given above structural limitation in the autonomy of a college it is important to analyse the role of a teacher in a college. After selection a teacher, as soon as he enters a college, is asked to teach a paper. There is a sudden transformation in his role as a teacher. There is no pre service training. There is no mentoring during the period of one year probation or on the job training. Teacher has to follow a text book, syllabus and give lectures topic wise progressively with a view to enable students to answer few descriptive type questions in an annual examination. Few staff motivated teachers might take this limited task rather challenging and motivate students with quality instruction, answering queries in tutorials and engaging them in a discourse with additional extra-curricular activities such as debate, seminar and quiz competition. For many teachers instructing student in a class for a limited period as per syllabus is the end objective of the job for which they are paid. This is the mind set and the culture of practice that has developed over a period of time. For want of a better term I may call it a culture "convenience of life" as opposed to the "culture of professional life" of a teacher. Former refers to minimal engagement relating to teaching and few allied activities to be followed on command from above. Latter refers to maximum engagement combining research and outreach services with teaching. We can think of a continuum. A college having nurtured cultural practice where professional life of teaching community predominates, howsoever rare it may be, so far as an affiliating college is connected. Thus lack of autonomous space has progressively resulted in loss of professional culture in the teaching community.

The point to note is there has been structural constraint limiting the space available for a teacher. The larger the number of colleges affiliated to the university, greater was the probability to centralise as there was a fear that otherwise things would go out of bounds and university will fail to administer and maintain standards. The only university could manage a large system was through standardisation and following bureaucracy. This further meant that a teacher will be subjected to a long chain of commands up to the university level even with respect to academic leave or such simple matters which could be decided at the level of a college. A natural outcome of a long chain of command and control was delay in decision making adding to the frustration of a teacher and a further fear that decision normally would not go in one's favour on a number of counts. Thus there developed another element to the culture of practice. It was a request and appeal for favour from the Principal of a college or the university authorities. There was always a fear in the mind of a teacher that if a request is made for any initiative – professional or institutional – it will be tuned down and there was a suspicion in the mind of administrative authority that such initiative would lead to personal gain only.

What is the significance of the politics of power within the corridors of a college? At a simpler level probably there is not much role of politics. Academia relies on collegiality and there is defined role of teaching. Therefore, teacher, apart from ideological position, does not have a role in politics of power. However, it is important to note that as power is centred, politics plays around decentring. Any policy that intends to introduce change from above, in the name of reform, is immediately followed by contestation. Contestation arises because reform measures implicitly amount to concentration of power – power to evaluate performance which was so far practically lacking in higher education system. This means breaking the present culture of practice – culture of convenience and comfort in the life of a teacher. Contestation to semester system in Delhi University is a recent example of of evading a practice that should have been in place decades ago, but for the university system that followed annual system of examination because it was convenient for them to do so. External quality assurance and accreditation is another experiment to centralise the power to evaluate the performance of a college and more the accreditation reaches the level of department and teacher, greater is the possibility to concentrate the power to evaluate. Accreditation of a college makes the evaluation of quality more transparent, though an individual teacher may remain unaffected.

The point that I am trying to understand is the issue of autonomy of a teacher and how the lack of autonomy has resulted, first, in the nonprofessional practice by a teacher – a mindset where the responsibility of a teacher is to take classes assigned to them – no more than this. If professional practice demands research there was no compulsion with very little space available for a college teacher under centralised control of a university. Further it was explained that centralisation even deprived them of minimum academic freedom as many decisions were subject to the approval of centralised power at the level of University on the recommendation of the Principal of a college. The authority of department or that of a college was negated. This loss of academic freedom further discouraged teaching community. When the lack of motivation of a teacher was almost at the peak and standard of teaching was the concern it was thought to introduce new managerial practices through which power to evaluate the performance of a teacher was further centralised. This new age managerialism was called reform practices to be introduced from above. This reform measure either faced opposition as it would amount to breaking the past practice or there was silent acceptance without making qualitative change, as past practices simply continued in a new grab. The present state of higher education is one in which structure of control is rigid and teacher is forced to perform amidst opposition. Teaching community does not have enough space to design reform process from within. State organs of UGC and university emphasises much more on functionality, given the rigid structure of control and does not create space for their own empowerment and action. A strong pre-service training with an on job training component, mentoring by a senior teacher, designing curriculum and syllabus, admission policy, evaluation and internal governance system should all be the part of professional life of a teacher. The larger space made available to them would provide academic freedom and empower them to run a college with greater responsibility and care and enable them to function as organic intellectual to society. The role of a university should be simply to grant permanent affiliation only when it feels college has all the necessary ingredients to deliver qulity instruction, howsoever high the benchmark for standards could be. The other categories of colleges could be placed under five yearly temporary affiliations. Such colleges could be nurtured to reach the stage of permanent affiliation.

Market and Individualism and Weakening of Organic Composition of Teachers

In the age of education reform there is further loss in the composition of teaching community and their role in developing critical ability to approach a problem. This is happening because market driven reform agenda is centred on the methodological individualism. Individual is the unit of analysis and optimisation around the choice of an individual is the central focus. The optimising agent is the consumer – an individual learner. Teacher has no autonomy but to support student in optimising learner's choice. Education has to be driven by what student wants from education. The whole concept of teacher as organic intellectual to society has to be replaced by consumer sovereignty by all means. Teacher has to be evaluated not in terms of the scholarship and critical disposition of his mind and his ability to stimulate the young mind but in terms of maximising student satisfaction. Market driven reform process has thus created a completely different paradigm guided by methodological individualism of the agency of learner in which differentiation and hierarchy among teaching community will predominate further disintegrating the conception of teacher as organic intellectual to society. Differentiation will occur because the teacher will have to submit to the varying choices of the heterogeneous group of learners.

The reform agenda derived from national Knowledge Commission report on higher education is a case in point. The neo-liberal doctrine for quality improvement is driven by managerialism. The NKC has focused on a number of issues to increase autonomy and accountability and improved quality in higher education. These include stringent information norms for educational institutions, evaluation of teachers by students, peer evaluation of teacher, improving the training of teachers, enhancing ICT infrastructure to promote student centred learning, salary differential to attract talented teachers and entry of foreign institutions. It prefers hierarchy in the cadre of teachers to attract talent. Level playing field for foreign and domestic institutions is supposed to enhance quality through competitiveness. It thus favours individual rationality and denies collective rationality of the State. State is supposed to create conditions for managerial rationality.

It argues that an expansion of higher education which provides students with choices and creates competition between institutions is going to be vital in enhancing accountability. Accountability is then supposed to improve the quality of higher education in India. Internal systems of evaluation are suggested to strengthen accountability in the teaching-learning process. Information is said to be important in reinforcing accountability. For this purpose disclosure norms for universities and institutions imparting higher education are suggested. It would empower students and parents and enable them to make informed choices. It is noted that "information, along with competition, fostered by increased supply, will close the accountability loop". Salary differentials between and within universities constitute another important suggestion made by the Knowledge Commission. It also notes that diversity and differentiation need to be promoted, yet for excellence achieving distinction is suggested.

It is important to examine a new form of accountability imposed upon the teacher through external quality assurance and accreditation. The basis of the new form of accountability is the rationality of an individual. A new perspective is a micro perspective to improve quality. It relies on benefiting the learner. Learner should be well informed about the quality of programme that institution delivers. Learner should have the flexibility of choice regarding course. Choice centric approach to quality is at the centre of new perspective of quality assurance through accreditation. Choice can be optimised when there is greater information on institutions, programmes, fees, content, number of credits acquired to be earned, availability for optional course, number of intakes, program in charge , the employability of the course, placement of graduates and information on infrastructure etc. available to a student. The rational student should have information on a set of such alternative institutions and programmes. Given the range of alternatives, student will make an optimum choice mainly subject to the income and other relevant constraints. Thus improving quality means bringing transparency in the governance, more information to the students. It there is any manufacturing in the system there should be grievance redressal mechanisms and tribunal to settle the disputes. This is supposed to generate competition as a mechanism to improve quality. The process of accreditation will support the students to choose the institutions of best quality. The choice guided mechanism will set in competition and the student choice will through competitive process improve the quality of education. Quality assurance through accreditations is developing as a mechanism to ensure accountability.

The role of a teacher is reduced to that of a manager – a program manager – to satisfy the learner that the essential architecture of learning has been put in place. His job is mainly to package a program that should attract students. After packaging of a programme teacher has to work in a team of which he is a manager. He is not an instructor and his instruction does not require the scholarship. He has to manage and facilitate the process of learning. Every student has a different route, different pace and the teacher has to ensure that all of them acquire the mastery level of learning. A teacher has to follow variable teaching style to suit the needs of different types of learners. Ultimately, teacher has to rely on the feedbacks received from the learner at the end of a programme. If a learner in the feedback report shows dissatisfaction from the program, teacher has to make up the deficiency in the next round of program. It is this process of iteration that is supposed to improve the quality of programme. It is important to understand that teacher, no doubt, has the functional autonomy in the role as a manager. However, he has no place to function as an intellectual in the critical discourse of a subject.

The basis of the rationality implicit in the quality assurance process assumes the principle of homoeconomicus – that is a student maximise utility and in that sense all students are rational individual. What is important to understand is the point that students may not be rational utility maximised. They may belong to different background – social and economic. They may be first generation learner in their community and their whole objective of education may not be guided by strict utilitarian objective. Capacity of such a student to process the information may be limited. Even if the best option is chosen a student may not find it possible to actualise it on various social and cultural considerations.

The external quality assurance mechanism is also based on the conception of teacher as a rational individual. The quality assurance and accreditation is based on the approach that external peer review process will motivate the teachers and administrators to improve the quality of education based on the feedbacks. It assumes that teachers are competent and teachers will respond positively to signals from quality assurance mechanisms. Since the autonomy of teacher is derived from the autonomy of the institutions, it also assumes that institutions are little regulated and are guided by the signals from quality assurance agency. It has been noted above that college is not an autonomous entity and suffers from control and regulation imposed by the Universities and the agencies of the State. The recruitment and promotion policy of teachers are guided by the authorities external to the college. Hence there is no a priori reason to suppose that teacher as a rational agent will be guided by the reports submitted by the external audit, as a teacher is constrained to take decision.

From this it follows that quality assurance and accreditation has inherent limitation to improve the quality through some sort of competition. Indeed, the issue of quality assurance is divorces from many real constraints facing higher education institutions and unless there is a mechanism to remove those constraints quality assurance mechanism cannot improve quality. Quality assurance process looks at quality as an end, not as means to an end. It implies that quality end with quality assurance. The feedbacks received from quality are not used a s an important tool to policy so that deficiencies of the institutions are addressed through Government interventions. It is more the instrumentality to guide the behaviour and action of a teacher and state in an evaluative role expects the quality of higher education to improve.

It has been noted above that the recent discourse on quality rests upon market and individualism. Under this approach teachers have to prove accountability to the varied group of learners. Teacher has to be a program manager with a defined set of responsibilities. In this new role of a teacher the notion of quality relates to maximisation of satisfaction of the learner. The important point to ponder over is whether the concept of teacher as organic intellectual to the society will remain intact under new situation. My understanding is that the concept will suffer as in the market-driven reform the incentives and award of a teacher will vary depending upon the efficiency criteria. This will set the process of differentiation and hierarchy in motion.

Consolidating Teacher's Role as Organic Intellectual

In this search of a new identity of a teacher it is necessary that they strive to engage more in the teaching-learning process. The quality time that they spend with the students will give a new identity to the teachers. It is during this process that teachers and students together might question some of the accepted beliefs and practices and discover new knowledge. They should be able to introduce innovations in the teaching-learning process. They should plan the lecture in advance and ask students to come prepared in the classroom. Lectures should be planned with enough interactions with the students. Group of students may be given the problem based project and teacher should guide students in their project work. Deficiencies of the students should be identified in advance by the teacher and remedial classes may be taken. For this some sort of a foundation course may be initiated to develop competencies in soft skills as well. On a selective basis departments and colleges should be given the responsibility to evaluate the student. Continuous evaluation of a student may be undertaken by the teacher. The only way teachers get a new identity is through the students who are brand ambassadors of the institution in which they have spent the formative years of life listening to the teachers, interacting with the peer group and sensing the problems of life and society and developing their own perspectives to deal with them.

It is necessary that research students are properly trained and inducted into the teaching profession. Their induction into the teaching profession should either be preceded by some training at the level of the doctoral research or six months to one year pre-service training by the specialized institution. It is high time that policy makers should insist on pre-service training and develop institutions for the same. Pre-service training should equip young teachers to effectively engage in teaching and learning and undertake research.

Governance in higher education should revolve around the active involvement of faculty in all the academic activities, as has been the case in many universities in the US and European countries. Self-regulation by the teachers in the college should be the accepted principle of governance. Universities need to have supervision and mentoring role in the governance of a college. This means that every teacher is a leader in higher education and should help to develop a new identity.

References

Gramsci, Antonio (1971). "The Intellectuals" in *Selections from the Prison Notebooks.*

Translated and Edited by Q. Hoare and G. N. Smith. London : Lawrence & Wishart, 3-23.

John Hoben Blue Collar Pedagogues : Democracy, "Vocational" Schooling and Antonio Gramsci's Organic Intellectual available on line

Application of Management Information System — A Case Study on the University of Calcutta

Arindam Banik[λ]

Abstract

The University of Calcutta, one of the largest universities in India, especially among the universities located in the eastern region, has started developing strategic planning and control systems for continuous improvement with the increasing support of modern ICTs in the recent years. However, in spite of increasing improvement in the form of equipment support, mainly computers, and local area networking, there are a large number of existing and emerging problems and obstacles, basically organizational and methodological in character, requiring immediate attention and in that process effective implementation of MIS can definitely play a significant role.

Keywords: Management Information System (MIS), University, ICT Performance Evaluation

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Introduction

The University of Calcutta is one of the oldest and largest universities in India. In the recent years, it has started to improve its strategic planning and control systems with the support of modern information communication technologies (ICTs). Despite the availability of adequate computer support and local area networking, there exist various types of problems, basically procedure-related, and there is a definite need for development and implementation of an effective MIS in the University of Calcutta.

One of the major reasons for the delay in operationalising an effective MIS in the University of Calcutta is the lack of rational use of available resources. Another difficulty in developing an MIS is the absence of acceptable university management models till now.

The University of Calcutta, one of the major universities in the country, has to function in the new and emerging market conditions. The increasing value for education in the society and the fast increasing market for the consumers of education are contributing towards the changing scenario of quality of higher education provided by university system.

This university is in the process of redesigning its basic administrative functions in order to become and remain effective in such an environment. There is a definite need for scientific standards and methods in all the functional areas and at all levels in the

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[λ] Assistant Secretary, UCAC, Alipore Campus, University of Calcutta university particularly in the wider context of the emerging market economy. The concept of "university management" has started gaining ground. Again, many of the views and practices developed in developed may not be that much relevant here.

Now a day the process of university management development needs to be supported by the use of ICTs. The ICTs applied to the management system of the University of Calcutta, will give an opportunity to:

- coordinate administrative activities for achieving the goals
- provide Information and assistance for administrative decision making
- develop and maintain the institutional MIS
- make the administrative processes more rational through standardization of a number of managerial activities Implementation of MIS in the University of Calcutta will lead to:
- improvement of the quality of education as a result of introduction of advanced educational processes and mass introduction of multimedia-based academic materials
- increase in the availability of knowledge through access to the internet
- increase in faculty productivity during the teaching-learning process with the use of equipment for multimedia presentation and making academic materials available to the students' through computers
- improvement in monitoring the academic contents presented in a digital form
- increase in students' motivation as a result of the availability of modern multimedia technologies, positively influencing knowledge acquisition, providing interactivity and reducing dependence
- increase in functioning efficiency of the institution as a result of the improvement of faculty performance and the productivity of the training technologies and, thus, reducing the delivery costs

University of Calcutta: Application of MIS

Modern ICTs can very well be used for the improvement of the University of Calcutta. For successful development of MIS, it is necessary to understand its basic stages precisely in the context of the university's strategy.

Experts have defined organization development strategy in terms of a generalized model of corporate competences, which is necessary for the achievement of the organizational goal on the basis of several parameters and rational distribution of resources (Durdenko, et al., 2005).

Cornerstone in the strategic university management is the assessment of the external and internal surroundings and analysis of those. **Keller(1983)** has mentioned external surrounding and internal institutional surrounding as "critical areas for strategic management".

Experts have identified several weaknesses of the strategic planning processes in the modern Russian university management systems which are applicable in other universities as well:

- Strategic management and planning processes are episodic in nature because attention is paid only once or twice in a year.
- Strategic goals and tasks, defined by the top management frequently, are of declarative nature and are not supported by corresponding control and monitoring mechanisms for their achievement.
- There is no communication between the strategic management level and the operative management level. Separate university departments are often not coordinated and that can very much affect the realization of certain strategic management goals.
- Strategic planning processes and budget formation processes are not often properly connected.
- Absence of organization strategy development or any formal approach in that connection results is poor quality administrative decisions.
  Some other reasons for such poor quality administrative decisions are the following (Titova and Balaeva, 2004):
- Unreliability of information, bad communications in organization
- Low-performing discipline
- large number of decisions
- low "standardization" of the decision-making processes
- insufficient coordination of interest among the various decision-making hierarchical levels
- imperfect system of decision making
- Inadequate competence of people who implement the decisions

Many of these reasons can possibly be eliminated with the help of the MIS in the universities.

A look at the efforts to develop MIS in the University of Calcutta gives an opportunity to identify a number of specific problems. The ICT experts in the university may take a note of these problems during the MIS implementation phase:

- Lack of readiness on the part of the concerned people to be involved in introducing the ICTs:
- Fear about possible deterioration of the existing situation
- Absence of respect for and trust on the persons who initiate the changes in the field of ICTs
- Absence of necessary changes in conviction
- Discontent with the changes initiated at the top

- Perceived negative impact on habits and relationships
- Different employee age groups
- Lack of the qualified and prepared staff in the field of ICTs
- Absence of Interest on the part of the university management and, as a consequence, delay in terms of project performance
- Methodological problems relating to the application of ICTs in the university
- Lack of concern about internal marketing and audit of information resources

Additional problems which interfere with the fast and effective realization of MIS-based functional output are:

- ✓ limited financing
- ✓ organizational complexities
- ✓ uncertainty relating to responsibility zones

The University of Calcutta enjoys the following privileges:

- sufficient provision for computers for the employees (about 80%)
- local area networks and internet connection for different campuses

For smooth application of MIS in the universities, the following points are important:

- It is crucial to involve the majority of the university personnel in the process of developing the plan for university automation.
- MIS is not created for one or two administrators.
- Administrative personnel, developers and employees have the collective responsibility for application of MIS.
- It is necessary to develop both administrative and educational problem- solution techniques and specific technologies focused on ICT application.
- It is necessary to allocate both human and non-human resources for high quality technical design, analysis and inspection of the MIS components.
- It is necessary to standardize and document all the stages of automation.
- It is necessary to reorganize the university and go for process re-engineering.
- Firm and collective conviction on the part of the top management regarding the necessity for application of modern ICTs.
- Specific parameters have to be identified vis-à-vis defining and achieving the goals in the context of MIS application.
- It is necessary to assess the economic and other kinds of effects of MIS on the university's activities.

Considering the technical aspects of the MIS development process, it is necessary to popularize the concepts associated with the use of WEB- based technologies. The concept of WEB-technologies/WEB-services allows uniting various technologies in a meaningful manner in the information environment.

The Information System model, based on the WEB-services conception, contains three basic layers. The *first layer* is the database, if necessary, of different architectures. The *second layer* is a level of components which can be made on the basis of WEB-services though the other technologies can also be used. The *third layer* is a level of applications.

When this model is used, changes in one database structure do not cause changes in the structure of many programmes. **Gluhih (2005)** has focused on the need for MIS institutional portal, helping integrate the access of the university personnel and the students to the institutional databases, and regulate the access to MIS services. Institutional portal can be defined as a protected WEB-based point convenient for use and giving access of internal and external users to potentially personalized institutional information, services, data and knowledge.

MIS Application for Performance Evaluation and Efficiency Improvement

Significant capital investments are necessary for development of MIS on basis of the most advanced and expensive technologies and, therefore, such investments should be made, especially in the context of the universities having limited finance. In any university system, it is difficult to link the capital investments (in terms of the economic and financial parameters) with its social objectives in context of developing and implementing an MIS. Basic principles of the ICTs' application efficiency estimation are:

- ➤ Resource flow modeling in every stage
- ➤ Consideration of comprehensive external and internal investment factors
- ➤ Consideration of effects in terms of investment costs and comparison of results
- ➤ Investments' discounting calculation

For the estimation of economic efficiency (in terms of investments in ICT), the following methods/techniques are of much relevance:

- ✓ Discounting of Money Flows
- ✓ Activity Based Costing (ABC)
- ✓ Total Cost of Ownership (TCO)
- ✓ Balanced Scorecard (BSC)
- ✓ Real Option Valuation (ROV)
- ✓ Customer Index
- ✓ Portfolio Management
- ✓ Economic Value Sourced
- ✓ Applied Information Economics
- ✓ System Life Cycle Analysis
- ✓ Information Economy
- ✓ Critical Success Factors (CSFs)

Besides the techniques suggested in the relevant literature and other sources, it is possible to know also the use of some other techniques.
MIS efficiency estimation is assumed to include consideration of all the factors and varied conditions and also the goals and the problems associated in the process of achieving the goals. The methodology for estimating a university's MIS-based economic benefits should include the following:

- Calculation of costs calculation with the help of TCO method, which will allow appreciation of direct and indirect costs for MIS development and maintenance
- calculation of economic gains, using discounting of money flows, in view of a particular university's features and focus
- social and other kinds of efficiency based on MIS
- quality of the effects of MIS
- comparison of the variants of MIS

Conclusion

The need for MIS development for the large universities, like the University of Calcutta, has drawn the attention of the top academic administrators only in the recent years. In spite of adequate number of computers and local area networking, quite a large number of existing and emerging problems and obstacles of varied types are there, basically organizational and methodological in nature, which need to be taken care of for effective implementation of MIS. There is a need for use of appropriate techniques/methods within the framework of MIS for improving the overall performance the University of Calcutta in today's highly competitive environment in the educational sector.

References

Durdenko, V., Melnikova P. and Spiridonova S. (2005), Strategy development and realization problems: municipal university experience, *University Management*, 40(7), Pp 50-56

Gluhih, I. (2005), University corporate Information System on the basis of Internet/ Intranet portal, *University Management*, 38(5), Pp 68-76

Keller, G. (1983), *Academic Strategy—The management revolution in higher education*, The Johns Hopkins Press, 42(2),Pp 85-87

Titova, N. and Balaeva, O. (2004), Management decisions development and making processes perfection in universities: research scheme, *University Management*, 33(5-6),Pp 143-151

A Study on Distress of Street Children in Kolkata Metropolitan City

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Abstract:

Research indicates that street children are exposed to sexual abuse, drug abuse and different types of violence. Therefore, their mental health affected severly and particularly they are exposed to distress (anxiety and depression). In the present study the investigators collected data from 150 street children in Kolkata Metropolitan City. HOPKINS (HSCL-10) Symptoms Checklist was used to collect relevant data from the respondents . Chi-square test was done for data analysis and interpretations. Result showed that girls are more distressed than boys, addicted and sexually abused respondents are more affected in distress. Further in depth study and early intervention are recommended.

Key Words : Distress , Street children

Introduction :

'Street child' are any girl or boy for whom the street has become his or her habitual abode and / or source of livelihood ,and who is inadequately protected, supervised or directed by responsible adults. They are either children on the street or children of the street (Commission on Human Rights,1994).Majority of them engaged in substance abuse, early sexual activity, delinquent, and physically and sexually abused (Nanda & Mondal,2012; Beauchimin,1999) affected from HIV/AIDS and/ or STDs. They are also persistently exposed to direct experiences of violence either physical, sexual and /or psychological in nature. Again there is strong evidence that majority of them are affected from psychological distress to profound trauma, random physical and /or sexual violence by other street inhabitants or members of the public, and they are forced for sex-selling or vagrancy (Committee on the Rights of the Child).

Majority of the street children are boys(Mufune,2000;Volpi,2003) as either the parents fears the dangers of street life to females (Veale,1993; Lalor,1999) or they are more likely to be engaged in a commercial sex work (Richter, 1991 ; Volpi,2003) or maids in bars and backstreet hotels (Swart–Kruger & Richter,1997; Lalor,1999).Their emotional and cognitive development also seriously affected as they experienced hostile, rejecting, and/ or abusive behaviour from their home and/or the public (Ward,2007).Therefore, their basic emotional security and trust affected profoundly (Ward,2007). They loss basic

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parental affection (UNICEF ,2001; Ward,2007) and suffer from low self-esteem ,apathy ,fatalism, anxiety, depression, or so regressed behaviours (Richter,1991; Mufune,2000).

Street children who are physically and sexually abused are affected from anxiety, depression, stress (Beitchman et.al.,1992; Finkelhor,1990;Gold, 1986;Lisak 1994) and are vulnerable to physical and sexual abuse and exploitation (Asia Child Rights,2005) and they crosses all borders (The Valvet Blouse,1997).Again those who are physically and /or sexually abused in their younger age and exposed to family violence have more experienced of stress, anxiety and depression than others. The same experiences are applicable to the street children. Therefore it is assumed that the street children in majority are exposed to distress. The present study attempts to ascertain the magnituted of distress (Anxiety+ Depression) among the street children of Kolkata Metropolitan City.

Research Questions

1. What is the impact of gender on distress of street children?
2. What is the impact of age, religious faith and habitat on distress of street children?
3. Whether school experience has any impact on distress of street children?
4. Whether the experience of sexual abuse and drug addiction has any impact on distress of street children?

Method and Procedure

Sample

In the present study the investigators used 150 samples purposively that is those who are available they were accepted as the sample of the study. A detailed demographic features of the respondents were shown in the following table.

Table 1: Demographic Characteristics of the Sample

Variables		Number	Percentage of total sample
Age(in years)	A. 6-10	37	24.67
	B.10+-14	72	48
	C.14+-18	41	27.33
Gender	Boy	46	30.67
	Girl	104	69.33
Religion	Hindu	90	60
	Muslim	60	40
Education	Yes	71	47.33
	No	79	52.67
Standard	Primary	54	76.06
	Secondary	17	23.94

Tool

HOPKINS Symptoms Checklist questionnaire developed by Hopkins (HSCL-10) was used to measure psychological distress (anxiety and depression) of the respondents. The checklist was selected because of demonstrate good sensitivity and simplicity for detecting the psychological symptomatology and mental distress. Out of 10 items of this checklist, first 4 items indicated anxiety and rest 6 items were related to the symptoms of the depression. The co-relation between original anxiety score and short version score was 0.91 and co-relation between depression score is 0.96.Each item of the scale was rated on a scale from one (not at all) and four (extremely).The original scale was adopted in Bengali by Nanda (2009).

Collection of data

For collection of data from the respondents, the investigators administered the questionnaire with demographic data sheet on one two one to each respondent. According to the need of the respondents the investigators helped the participant to answer the questionnaire. Filled up questionnaires were collected personally by the investigators and quantified possible and tabulated systematically for analysis and interpretations.

Results

Table 2: Showing Mean, distress value of street children on the basis of different variables

Variables		fo	Mean	fe	(fo-fe)2	(fo-fe)2/fe	Ó(fo-fe)2/fe	Signi
Gender	Male	46	22.02	75	841	11.21	22.42	<0.05
	Female	104	23.77	75	841	11.21		<0.01
Age(in years)	6-10	37	19.30	50	169	3.38	<0.05	
	10+-14	72	23.5	50	484	9.68	14.68	<0.01
	14+-18	41	26.61	50	81	1.62		
Religion	Hindu	90	23.58	75	225	3	6	<0.05
	Muslim	60	23	75	225	3		>0.01
Habitat with parents	Stayed with parents or others	101	23.31	75	676	9.01	18.02	<0.05
	Stayed alone	49	22.67	75	676	9.01	<0.01	
Education	In school	71	24.34	75	16	0.21	0.42	>0.05
	Out of school	79	22.46	75	16	0.21		>0.01
Abusement	Sexually abused	110	25.68	75	1225	16.33	32.66	<0.05
	Sexually not abused	40	17.23	75	1225	16.33		<0.01
Addiction	Addicted	93	24.44	75	324	4.32	8.64	<0.05
	Not addicted	57	22.73	75	324	4.32		<0.01

Major Findings:

1. There is significant difference in the distress of street children on the basis of their gender. The girls possess more distress than the boys.
2. There is significant difference in the distress of street children on the basis of their age groups. The street children in the age group 14+-18 years possess more distress than the children of other age groups.
3. There is significant difference in the distress of street children on the basis of their religious faith (i.e., Hindu and Muslim).The Hindu children possess more distress than the Muslim.
4. There is significant difference in the distress of street children on basis of their habitat with parents. The street children who stayed with parents or others possess more distress than the children stayed alone.
5. The children who are in the school possess more distress than the children who are out of school and this difference is not significant.
6. There is significant difference in the distress of street children on the basis of their abusement. The street children, who are sexually abused possess more distress than the children who are not abused sexually.
7. There is significant difference in the distress of street children on the basis of addiction. The addicted children possess more distress than the not addicted children.

Discussion

Ahmadkhaniha ,Shariat, Torkaman-nejad and Moghadam (2007) found that street girls (86.7%) were more distressed than street boys (48.2%) and distressed street children were 3.2 times more likely to be sexually abused than non –distressed children. In the present study it was also found that girls possess more distress than the boys(<0.05 and <0.01) and sexually abused street children are more affected from depression and anxiety (<0.05 and <0.01) than non abused. In the report of Save the Children (2003) it was noticed that girls in the street possess more depression because they face more insecurity, poverty, higher risk of sexual abuse , exploitation and sex-trafficking. De Luca et. al.(1992,1995) focused that sexually victimized girls have low self –esteem ,aggression, anxiety, sexual adjustment problems and feeling loneliness and stigmatization. The result is that their depression is often manifested through self-mutilation and suicide attempts. Hack et.al. (1994) found similar results in boys who had been sexually victimized.

In the present study it was observed that the addicted street children are more distressed than the non addicted. The Boston Initiative to Advance Human Rights (2010) also observed that most of the street children possess depression and they, therefore, is a regular drug abuser and again drug addiction is a common element in sex trafficking, both as a mechanism for traffickers and abusers to subdue the victims and as means for victims to escape a reality and 'Cope' with abuse.

Street Children are severely affected from malnutrition, specially in their early life, resulting in cognitive, social and behavioural deficits (Pollitt & Gorman,1994) like cognitive and motor delays, anxiety, depression, social problems and problems with attention (Shonkoff & Phillips ,2000) and they become frustrated. Exposure to violence and abuse can cause serious mental health problems including depression, anxiety and psychosomatic complaints and substance use disorders, which are very common among street children. Due to social and State neglect these most vulnerable group of children not only affected from mental health problems but are excluded from education .Some NGOs and philanthropic peoples are working for their education but that are in very fragmented form. The result is that this most vulnerable group of children are one of the main sources of HIV/AIDs and sex trafficking as well as other STIs, drug-trafficking and production of antisocial.

References

Ahmadkhaniha,H.R.,Shariat,S.V.,Torkaman-nejad,S.,and Moghadam,M.M.H.(2007).The frequency of sexual abuse and depression in a sample of street children of one of deprived districts of Tehran. Journal of Child Sexual Abuse,16(4),23-35.

Beauchemin, E.(1999).The Exodus: The growing migration of children from Ghana's rural areas to the urban centers. CAS & UNICEF.

Beitchman , J.H., Zucker,K.J., Hood,J.E., Dacosta,G.A., Akman,D., & Cassavia,E. (1992). A Review of the long-term effects of child sexual abuse. Child Abuse and Neglect,16,101-118.

De Luca,R.V., Boyes,D.A., Grayston,A.D., & Romano,E. (1995).Sexual abuse : Effects of group therapy on pre adolescent girls. Child Abuse Rev.,4,263-277.

De Luca, R.V.,Hazen, A.,& Cutler, J.(1993). Evaluation of a group counselling program for pre adolescent female victims of incest. Elem .Sch. Guidance Counsel, 28,104-114.

Finkelhor ,D. (1990). Early and long-term effects of child sexual abuse: An update. Profession. Psychol.,21,325-330.

Gold,E.R.(1986).Long-term effects of sexual victimization in childhood : An attributional approach.J.Consult.Clin.Psychol.,54,471-475.

Hack,T.F.,Osachuk, T.A., & De Luca, R.V.(1994).Group treatment for sexually abused pre adolescent boys.Fam.Soc.J.Contemp. Human Services,75,217-228.

Lalor,K.J. (1999).'Children living and working in the street: A comparative persrective'.Child Abuse &Neglect, 23(8), 759-770

Lisak,D.(1994). The psychological impact of sexual abuse: Content analysis of interviews with male survivors.J.Traumatic Stress,7,525-548.

Mufune,P.(2000).Street youth in Southern Africa. International Social Science Journal,53(2),233.

Nanda,B.P., & Mondal,S.(2012).A Study on Physical and Sexual abuse of Street Children in Kolkata Metropolitan City. Evolving Horizon,1(1).

Pollitt, E., & Gorman, K.S.(1994).Nutritional deficiencies as development risk factors. In C.A. Nelson (Ed.), Threats to optimal development :Integrating biological, psychological and social risk factors (pp.121-144), Hillsdale,N.J, & Lawrence, Erlbaum Associates. (dnf.).

Report of the United Nations High Commissioner for Human Rights on the protection and promotion of the rights of children working and/or living on the street.

Richter,L.M.(1991).'Children living and working in the street in South Africa: Children living and working in the street in rich and poor countries'.Child care Worker,9,5-7.

Save the Children (2003). Copiii strazii si drogurile. Retrieved from http://www. savethechildren. net/ romania/ resurse/ rapoarte. html

Shonkoff,J.P. & Phillips, D.A.(2000). Neglect and abandonment. In J.A.Monteleone (Ed.),Recognition of child abuse for the mandated reporter (2nd ed.,pp. 105-118), St. Louis,M.O.

Swart-Kruger,J. & Richter,L.M.(1997). AIDS-related knowledge, attitudes and behaviour among South African street youth: Reflections on power, sexuality and the autonomous self. Social Science & Medicine,45(6),957-966.

The Velvet Blouse (1997). Sexual exploitation of children.National Commission for Women,Government of India, New Delhi,1-15.

UNICEF (2001).A Study on Children living and working in the street in Zimbabwe. Retrieved January 21,2009,from UNICEF Evalution Data base.

Veale,A.(1993).Children living and working in the street and political violence:a socio-demographic analysis of children living and working in the street in Rwanda.

Volpi,E.(2003).'Children living and working in the street:promising practices and approaches'.Child,Youth and Environments,13(1),1-30.

Ward,C.L.(2007).'Monitoring the well-being of children living and working in the street from a rights perspective'.In A.Dawes, R.Bray and A.van de Merwe(Eds.).,Monitoring child well-being: A South African rights-based approach, pp 233-246. Cape Town:HSRC press.

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College Students' Experience with Mathematics in School

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Abstract: This study examines the experience with mathematics of Under Graduate college students during their school years. A questionnaire was constructed and administered on a sample of 414 Under Graduate students from Kolkata and its suburbs. Subsequent analysis revealed that experience with mathematics does not differ gender wise but differs according to students' subject groups. Surprisingly, students in the Language group remember the best experience with mathematics, while Science and Commerce groups do not reminisce quite so positively. This is possibly because the students of the Language group have been freed of the 'demands' of mathematics.

Key words: Experience, Mathematics, Gender, Subject group.

Introduction

Mathematics is a subject that has a vicarious and ethereal beauty. At the same time it is a subject that is universally used and is entwined with almost every subject known to academia. Consequently, it is introduced early on in every child's education. Unfortunately, the mathematics communicated in schools often appears intimidating to students and makes them reticent about using it. This inhibition regarding mathematics is possibly because of the experience students undergo in the mathematics classroom in their formative years. Experience with mathematics may stem from the teacher who taught them mathematics, from their actual classroom participation, from their proximity with their peers and friends, from their study habits, from their need to use mathematics in their daily lives and from their parents who may be negligent or even overly coaxing.

Intimidation regarding use of mathematics can be carried on into a student's higher study. This is particularly so of students who may not be expecting any mathematics in their chosen field. In particular, students in social sciences are often appalled by the amount of statistics that they have to grapple with. On the other hand, students in physical sciences are often more proficient and welcoming of the mathematics content in their chosen area.

Traditionally, mathematics classes in schools are grave and solemn, and mathematics teachers appear to be hard task masters. students may gripe about homework and

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[α] Professor, Department of Education, University of Calcutta the need for practice in the subject. Parents, too, play a part by coaxing their wards to apply themselves to succeed in the subject. All these factors may compound to build up memories of experience with mathematics. Nevertheless, teachers have to keep in mind that every student in their class is a part of their fold. Thus there is a need to become aware of the nature of experiences regarding mathematics with which students leave schools so that the vista of mathematics may appear more attractive, relevant and useful to them.

The investigator, therefore, examined Under Graduate students' experiences with mathematics so that the sources of inhibitions regarding the subject may be identified. Under Graduate students have elected to study in different areas of knowledge, viz., Physical Science, Life Science, Social Science and Languages. The investigator compared the experiences regarding mathematics in schools of students from these four streams of learning.

Several researches are available to throw light on this topic. Prevatt, Welles, Li and Briley (2010) have investigated the impact of memory and anxiety on mathematics performance. They found that students with low anxiety but poor memory require to be taught ways of improving memory so that their problems with mathematics may be alleviated. Also, those with high anxiety require to be helped in this regard so that their mathematics performances can improve. A study in India by Khatoon and Mahmood (2010) also found that secondary school students in India display moderate levels of anxiety regarding mathematics and that females display more mathematics anxiety than males. They also found that mathematics anxiety had a deleterious effect on mathematics achievement. However, a study conducted by Allen (2011) is based on perceptions of college students on successful strategies for reducing mathematics anxiety. The study provided practical classroom strategies that can reduce students' mathematics anxiety. By reducing anxiety more students took mathematics related courses and entered mathematics related careers.

Akaniwwor (2011) investigated the problems of mathematics phobia among students and found that teachers' aggressive attitudes resulting from lack of motivation, poor instructional strategies and students' poor questioning habits due to culture, contribute to poor subject matter conceptualization and phobia for mathematics among the students.

Mohamed and Waheed (2011) in their study on students' attitudes towards mathematics in secondary schools of Maldives found that students' positive attitude towards mathematics is not high, and there is no gender difference in this regard. More notably, the study found that students' attitude toward mathematics influenced their achievement in the subject. A similar study by Mahanta and Islam (2012) on the attitude of secondary school students towards mathematics and its effect on mathematics achievement in Assam found that boys had more positive attitude towards mathematics than girls, and that attitude towards mathematics was positively correlated with achievement in the subject. Jenkins (2006) in an action research on students of a sixth grade class in USA found that most students had a negative attitude towards mathematics. By this action research she found that gifted children require to be given activities that involve mathematical interpretation and creative problem solving so that intrinsic interest in mathematics is developed.

Otts (2010) found that attitudes towards mathematics significantly predicted self-regulated learning which, in turn, predicted final course grades. Students who used self- regulatory strategies earned higher scores in mathematics courses. A similar study by Pajares and Schunk (2002) found that many students failed to achieve in mathematics because of lack of positive 'self-beliefs'. Their suggestions include using mathematics "as a forum for students" so that they will attain a better understanding of themselves as learners through experience and hard work, and will persevere in comprehending mathematics. They also propose fostering of positive and encouraging relationships between teachers and students and between peers.

That home and classroom environments and teacher image play a role in forming students' vistas of mathematics can be seen from the following studies (among others). Anderson, Rogers, Klinger, Ungerleider, Glickman and Anderson (2006) explored the relationship between students' achievement in mathematics and school and home variables in Canada. They found that students' beliefs about mathematics are positively related to their mathematics achievement. Lamb and Fullarton (2001) in a comparative study of USA and Australian mathematics classrooms, found that the classroom environment, teachers and school factors are important influences in differences in mathematics achievement.

These studies indicate that perspectives regarding mathematics largely stem from experiences in the mathematics classroom in school. If the sources of inhibition are found then corrective actions can be taken so that the outlook and understanding of students regarding mathematics can be improved. Hence, the objectives of the study were to ascertain the experience with mathematics and to compare these among students in Under Graduate courses with respect to the different streams of learning and gender.

Here "experience in mathematics" is taken to be a measure of students' extent of positive experiences with mathematics.

The hypotheses of the study were as follows:

Ho1: There is no significant difference in the experience with mathematics between students of different streams.

Ho2: Gender - wise difference is not significant in the experience with mathematics among the students.

Method

Sample. As students from Under Graduate colleges of the University of Calcutta and West Bengal State University approximate similar cultures and study backgrounds, they are collectively taken to be the population for generalisation of the study. The sample for the study thus comprised of students in Under Graduate general colleges affiliated to University of Calcutta and West Bengal State University.

The sample was purposive and represented in the following table:

Table 1: The sampling distribution

	1	2	3	4	Total
Male	**16**	**29**	**55**	**35**	**125**
Female	**12**	**21**	**81**	**175**	**289**
Total	**18**	**50**	**136**	**210**	**414**

Table 2: Subject-groups of participants

Subject Groups	Subject in Groups	Subject Groups in Number
Language	**Bengali, English, Sanskrit, Hindi**	**1**
Science	**Mathematics, Physics, Biology, Chemistry, Computer Science, Botany, Zoology, Geography**	**2**
Commerce	**Accountancy**	**3**
Social Science	**Political Science, Philosophy, Education, Sociology, History**	**4**

Tools. The tool consisted of a questionnaire entitled Students' Experience with Mathematics for assessing the students' experiences with mathematics in the past (in school) as well as in the present course of study.

The structure of the questionnaire:

The questionnaire consisted of statements related to the following areas of experience-

- Teachers of Mathematics :
  Caring/Not caring, i.e., the teacher's care and concern for the students
  Feared/ not feared, i.e., how much the teacher intimidated the student

Experience, i.e., the type of experience of the student with the teacher
Knowledge of discipline, i.e., the teacher's knowledge of mathematics
Discipline propagation, i.e., the teacher's efforts to popularize the subject.

- Participation in class: Active/ Passive, i.e., students' involvement in class
  Obedience/ Disobedience, i.e., whether the students followed the teacher's instructions

  Attraction/ Aversion, i.e., how much the students looked forward to the mathematics class

  Sincere/ Naughty, i.e.,behaviour of student

- Peers and friends:
  - Peer influence, i.e., whether peer influence was positive or negative
  - Love/ Hate, i.e., peer groups' affinity for mathematics

- Study Habit:
  Sincerity/ Insincerity, i.e., time devoted to study of mathematics outside the classroom

- Daily life:
  Usage/ Avoidance, i.e., Extent to which mathematics is used or avoided in daily life
  Utility/ Non-utility, i.e., how much the subject uses mathematics in daily life

- Parents:

  Initiation/ Coercion, i.e.,parents pressurizing student to study mathematics

The questionnaire consisted of 38 statements which the students had to respond by way of intensity of their agreement with it.

The scores were subjected to a P-P Plot and the distribution of scores was found to be nearly normal.

Scoring Principle: For each statement the positive and negative statements were identified. The scoring principle is shown below:

Table 3: Scoring Principle

Response	Score	
	Positive Statement	**Negative Statement**
Strongly Agree (SA)	5	1
Agree	4	2
Indifferent	3	3
Disagree	2	4
Strongly Disagree (SD)	1	5

The quantification of the students' positive experiences was made by adding the scores pertaining to each statement. The maximum score was 190 and the minimum was 38.

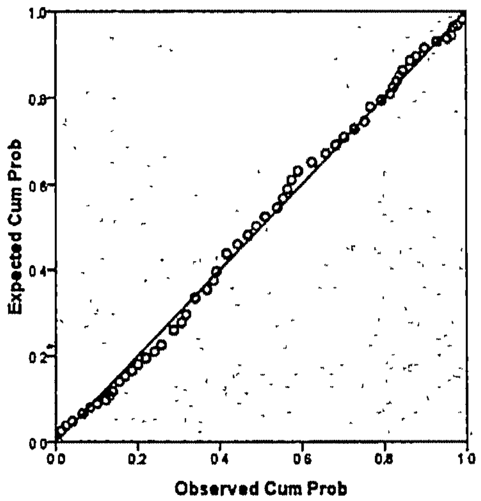
The questionnaire was validated by 3 experts. The reliability was measured by the test – retest method, with a gap of one month between the test and the retest. The sample for this operation consisted of 230 subjects of similar attributes as the sample of study. The test retest score correlation was significant at 1% level.

Data Collection and Analysis

The Questionnaire was administered to the sample. The response sheets were examined thoroughly and scores were attributed to each individual. The scores were then tabulated and analysed to achieve the stated objectives of the study and to test the stated hypotheses.

The Questionnaire A scores were subjected to a P-P Plot as follows:

Normal P-P Plot of QAT



The scores were subjected to a P-P Plot and the distribution of scores was found to be nearly normal.

The Mean and Standard Deviation of scores were as follows:

Table 4: Mean and Standard Deviation of scores

Gender & Subject group		Mean	Std. Deviation	N
Male	1	156.00	14.241	6
	2	140.72	23.481	29
	3	141.33	16.154	55
	4	131.26	17.629	35
	Total	139.07	19.119	125
Female	1	147.58	19.285	12
	2	134.24	21.605	21
	3	137.80	14.808	81
	4	134.38	18.642	175
	Total	135.88	18.050	289
Combined	1	150.39	17.803	18
	2	138.00	22.717	50
	3	139.23	15.406	136
	4	133.86	18.473	210
	Total	136.84	18.415	414

(1: Language Group 2: Science Group 3: Commerce Group 4: Social Science)

Observation: Students in the Language Group related more positive experience of mathematics than students of all other subject groups. The Social Science Group related the least positive view of mathematics.

The scores were subjected to a P-P Plot and the distribution of scores was found to be nearly normal.

An ANOVA was conducted to test the hypotheses and the result is presented in the following table

The significance of difference between scores:

Table 5: The significance of difference between scores

Source	Type III Sum of Squares	df	Mean Square	F
Gender	589.912	1	589.912	1.807 N S
Subject	6374.713	3	2124.904	6.509 **Significant 1%**
Gender × Subject group	1247.526	3	415.842	1.274 N S

* Significant at 5% level ** Significant at 1% level

Observation:

- There is no significant gender wise difference in mean scores between boys and girls.
- Mean scores of subject groups differ significantly at 1% level.
- There is no interaction effect between gender and subject group.

Post-hoc examinations:

Subject group wise differences being significant, the scores were further subjected to t-test as follows:

Table – 6: Subject wise differences

(I) Subject group	(J) Subject group	Mean Difference (I-J)	Std. Error	Sig.a
1	2	14.311*	5.206	.006**
	3	12.227*	4.785	.011*
	4	18.972*	4.817	.000**
2	3	-2.084	3.032	.492
	4	4.661	3.082	.131
3	4	6.745*	2.300	.004**

* Significant at 5% level ** Significant at 1% level

(1: Language Group 2: Science Group 3: Commerce Group 4: Social Science)

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Observation: The mean score of the Language Group differs significantly from that of the Science and Social Science groups at 1% level and from the Commerce Group at 5% level. The mean score of the Commerce Group differs significantly from that of the Social Science Group at 1% level. That is, the Language Group's experience of mathematics is better than that of the other three groups and the Commerce Group's experience is better than that of the Social Science Group.

Reflections

The study indicates that students in the Language Group appeared to reminisce about their mathematical experience in a more positive way than students of other subject groups. This may appear somewhat surprising as one would expect students of Science and Commerce to be more positively inclined towards mathematics. It is possible that students in the Language Group have responded to the questionnaire totally on rose tinted nostalgia as they do not require studying mathematics any more. Therefore, they are more ambivalent about their perceptions of mathematics. On the other hand, Science and Commerce students have to wrestle with mathematics in their Under Graduate course and therefore, may harbour negative perceptions of the subject. As investigated by Spark [2011], mathematics anxiety can generate negative emotions when doing mathematical tasks. Perhaps this is the reason why students in the Science and Commerce groups think negatively about mathematics as they strive to grapple with the subject in their present course.

That the experience of mathematics is undoubtedly related to its cognition cannot be denied. Amato [2010] constructed a questionnaire which gauged the liking of student – teachers for mathematics. She found that there was a definite relationship between liking and disliking of mathematics and the understanding of mathematics. That is, she found a qualitative evidence of the relationship between the affective and cognitive domains of mathematical experience. Responses of the student – teachers showed that their dislike for mathematics stemmed from their instrumental understanding. Once their comprehension of mathematical concepts was improved they started liking mathematics. Thus lack of understanding could be a reason for perceived negative experiences of social science students. Intimidation by and lack of comprehension of mathematics forms a vicious cycle .

Contrary to the popular idea that mathematics is viewed as a male - centric interest area, this study shows that girls and boys do not hold significantly different extents of positive experience of mathematics. However, several studies have shown a male advantage in mathematics and attributed this to superior visual-spatial capacity of males. A study by Catherinc T. Amelink [2009] examined gender differences by studying the learning experiences among United States females in Science, Technology, Engineering and Mathematical disciplines and their differences with males. She found that females were less likely to take up mathematics related subjects. She also observed that males performed better than females in mathematics. However, in recent years she found that the differences between male and female grades in mathematics are not significant. She attributed any difference in mathematics grades to be because of higher anxiety among females. Women suffer more from fear of failure. Fear of failure generates lower perceived self-ability, and anticipation of failure among women detracts them from studying mathematics. However, the girls of the sample of the present study may not have experienced more fear of failure than the boys, or more appropriately, they were demonstrating a unisexual modern trend of equivalence of experiences, pleasant and unpleasant.

This study is therefore an exemplar of the need to provide positive experiences in school mathematics classes. Negative experiences in mathematics classes have been seen to have lasting effects on students who are intimidated and repelled by any mathematical demands made on them. Leaving out school based nostalgia devoid of responsibilities (as in the case of language group students), inhibitions in mathematics form a barrier towards progress in different subjects.

References

Akaninwor, G.I.K. 2011. Mathematics phobia in developing areas: implications for technical manpower development in Nigeria. Retrieved from ERIC database.

Allen, A.A. 2011. Perceptions of college students on successful strategies for reducing mathematics anxiety. Ed. D. Dissertation. Retrieved from ERIC database.

Amato, S. A. 2010. Student teachers' attitudes to maths. Retrieved from www.emis.de/proceedings/PME/RR/RR06.

Amelink, C.T. 2009. Literature overview gender differences in math performance. Retrieved from http://wwwAWEonline.org

Anderson, J.O., Rogers, W.T., Klinger, D.A., Ungerleider, C., Glickman, V., & Anderson, B. 2006. Student and school correlates of mathematics achievement: models of school performance based on Pan-Canadian students' assessment. Canadian Journal of Education. 29. Retrieved from www.csse.scee.ca/CJE/FillText/...CJE29-3-Andersonetal.pdf.

Chamberlin, M.T., Powers, R.A., & Novak, J.D. 2008. Teachers' perceptions of mathematics content knowledge assessments in professional development courses. International Electronic Journal of Mathematics Education, Vol.3. Retrieved from ERIC database.

Dorman, J.P., Adams, J.E., & Ferguson, J.M. 2011. A cross-national investigation of students 'perceptions of mathematics classroom environment and academic efficacy in secondary schools. International Electronic Journal of Mathematics Education. Retrieved from ERIC database.

Else – Quest, N.M., Linn, M.C., & Hyde, J.S. 2010. Cross-national patterns of gender differences in mathematics: a meta-analysis. American Psychological Association, 136, 103-127. Retrieved from Psychological Bulletin database

Gale, T. 2006. Math phobia. Retrieved December23, 2011.

Hannula, M. 2002. Attitude towards mathematics: emotion, expectation & values. Educational Studies in Mathematics. Retrieved April10, 2012.

Hudson, S., Lavin, S.K.K., & Vasquez, T. 2010. Improving basic math skills using technology. Action Research Project. Retrieved from ERIC database.

Jenkins, N. 2006. Factors that influence mathematics attitude. University of Nebraska. Retrieved from scimath.uni.edu/MIM/files/research/JenkinsN.pdf.

Khatoon, T. & Mahmood, S. 2010. Mathematics anxiety among secondary school students in India and its relationship to achievement in mathematics. European Journal of Social Sciences, 16, 1. Retrieved from www.eurojournals.com/ejss_16_1_08pdf.

Knog, Jing, Wang, & Chunmao. 2011. Mathematics and perspective. Retrieved February12, 2012.

Leder, G.C. & Forgasez, H.J. 2010. I liked it till Pythagoras: the public's views of mathematics. Retrieved March 27, 2012, http://youcandomaths.com.au/index.php

Lamb, S. & Fullarton, S. 2001. Classroom and school factors affecting mathematics achievement: a comparative study of the US and Australia using TIMSS. Australian Council for Educational Research. Retrieved from http://research.acer.edu.au/timss_monographs.

Lloyd, J.E.V., Walsh, J., & Yailagh, M.S. 2005. Sex differences in performance, attributions, self – efficacy, and achievement in mathematics: if I'm so smart, why don't know it. Canadian Journal of Education, 28, 385-408. Retrieved from ERIC database.

Mahanta, S. & ISLAM, M. Attitude of secondary students towards mathematics and its relationship to achievement in mathematics. International Journal Computer Technology & Applications, 3(2) 713-715. Retrieved from www.ijhssnet.com Vol_1_No_15_Special...34.pdf. January 23, 3013.

Mathematics. Retrieved from Wikipedia. December 22, 2011.

Mathematical anxiety. Retrieved from Wikipedia, December22, 2011.

Math fear to math joy! Make many enjoy. Retrieved from http://www.wordpress.com, December22, 2011.

Mohamed, L. & Waheed, H. 2011. Secondary students' attitude towards mathematics in a selected school of Maldives. International Journal of Humanities and Social Sciences, 15, Retrieved from www.ijhssnet.com/journals vol_1_No_15_ Special...34.pdf.

Montague, M. & Garderen, D.V. 2003. A cross-sectional study of mathematics achievement, estimation skills, and academic self-perception in students of varying ability. Journal of Learning Disabilities, 36, 437-448. Retrieved from ERIC database.

Nagraju, M.T.V. 2006. Mathematics problems of class X residential and non-residential school students in relation to certain demographical variables. Indian Educational Abstracts,.8, 26-31.

Otts, C.D. 2010. Self-regulation and math attitudes: effects on academic performance in development math courses at a community college. Ed. D. Dissertation. Retrieved from ERIC database.

Pajares. & SchunK. 2010. Improving student achievement in mathematics by promoting positive self-beliefs. The National Council of Supervisors of Mathematics Improving Student Achievement Series. Retrieved from www.learningandtheadolescentmind.org/.../NCSM PositionPaper7.pdf.

Pehkenen, E. 2001. Objective & subjective knowledge generally accepted structure within mathematics community. Mathematics Education Research Journal. Retrieved April 11, 2012

Prevatt, F., Welles, T.l., LI, H. & Briley,.P. 2010. The contribution of memory and anxiety to the math performance of college students with learning disabilities. Learning Disabilities Research and Practice, 1, 39-47. Retrieved from ERIC database.

Rastogi, A., & Goel, C. 2008. Effectiveness of school education experience programmes in building attitude of prospective teachers. Indian Educational Review, 46.

Ravannan, R. MARY, A.B. & JULIE. (2010). Attitude towards mathematics of XI student in Trichy district. Retrieved from www.aiaer.net/ejournal/vol20198/ 13ntm on April 10, 2012.

Russell, D. 2011. Math anxiety. Retrieved from About.com, December23, 2011.

Scarpello, G. 2010. Tips for teaching math to elementary students. Education Digest: Essential Readings Condensed for Quick Review, 1, 59-60. Retrieved from ERIC database.

Skaalvick & Skaalvick. 2011. Mathematics and self-efficacy. Retrieved from February12, 2012.

Sparks, S.D. 2011. Math anxiety explored in studies. Education Week, 31. Retrieved from ERIC database.

Tchoshanow, M.A. 2010. Relationship between teacher knowledge of concepts and connections, teaching practice, and student achievement in middle grades. Educational Studies in Mathematics, 2, 141-164. Retrieved from SpringerLink database.

Education for All in West Bengal, India: Towards Context-Relevant Quality Indicators and Evaluation Policies for Primary Schools[*]

Madhabi Chatterji[P]

Abstract

The fast-approaching 2015 deadline for developing nations to meet internationally-set targets for universal primary education and gender equality has caused governments and development agencies around the world to examine what has and has not been achieved to date. Earlier goals set by UNICEF's Millennium Development Goals (MDGs) and Educational For All (EFA) initiatives are undergoing a serious re-evaluation. Given that backdrop, this study sought to broaden definitions of educational quality at the primary level in more comprehensive and child-centered terms, taking into account local and regional context factors (namely, historical, governance, economic, cultural-religious, community, and family-based variables). The method employed is a policy theory analysis, based on a literature review relevant to a regional case study focusing on the state of West Bengal, India. The paper uses the case analysis to (a) suggest revised indicators of educational quality, (b) derive a context-based logic model, and (c) recommend two-tiered monitoring strategies that support program development at the community level while meeting macro-level information needs.

Key Words: Education for All (EFA), Context dependent quality Indicators.

The start of the 21st century was marked by a number of international calls for universal primary education, gender equity, and the protection and empowerment of women (UNESCO, 2007). The international consensus emerging from the *Education for All* (*EFA*) conference held in Jomtien, Thailand in 1990, was reasserted a decade later at Dakar, Senegal in 2000, leading to a *Framework for Action.* The United Nations' *Millennium Development Goals* (*MDGs*) followed shortly after in 2002, continuing to emphasize the need for universal access and equitable distribution of educational opportunities for all children, underscoring the need to educate girls (UNESCO, 2007; UNICEF, 2007a; UNICEF, 2007b).

Goals 2 and 3 of the *MDGs*, endorsed by 189 member nations, were accompanied by an explicit action agenda and timeline for goal accomplishment. Primary schools were expected to reach gender parity by 2005 on school enrollment indicators, showing improvements on other indicators by 2015 (www.un.org/millenniumgoals/goals.html).

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The international education agenda was placed at the forefront of political and developmental dialogues of many nations in the developing world, including the focus of the present study, the state of West Bengal in India (Government of India, 2006).

The fast-approaching 2015 deadline for meeting the initial *EFA* and *MDG* targets has caused governments and development agencies around the world to examine closely what *has* and *hasnot* been achieved to date, with a serious re-evaluation of goals, quality criteria, and approaches to educational planning, monitoring and evaluation (Aikman & Rao, 2010; Burnett & Felsman, 2012; Lewin, 2011). Given this background, this study asks: *Were the initial EFA policy expectations realistic, given the immense diversity indifferent regions struggling to achieve these goals?* And, *Were the indicators of educational quality, set by international agencies and governments at the macro-level, meaningful and useful in shaping educational development and progress at the local level?*

Among the widely-used indicators for global monitoring of *EFA* policy targets, are the Gross and Net Enrollment Rates (GER, NER) for students, the Gender Parity Index (GPI) for students, and an Educational Development Index (EDI), with EDI representing a composite measure that combines more than one construct or data source (see Lewin, 2011). Because these indicators reflect the most valued outcomes of the international community, including that of donors, they have been rapidly adopted by governments and education development agencies striving towards *EFA* around the world.

Despite the appearance of objectivity and measurability, however, the GER, NER, GPI and EDI indicators are vulnerable to numerous errors and misinterpretations in applied contexts (see Lewin, 2011). Take for example, the GPI, representing a ratio of the percent ofgirls to boys who are enrolled in a given year by age, aggregated in or across different grades of primary school (Ministry of HRMD, India (2012), *DISE 2010-11-Flash Statistics*). Equal educational access and participationare among the most valued criteria of the *EFA* initiative; hence, the GPI is viewed as one of several key indicators that define educational quality.

The GPI is measured at one time-point of the school year, and has a theoretical ideal of 1.0, indicatingthat equal percentages of same-age males and females enrolled in school in that year and grade level. Schools are reported to have met the quality criterion ofequal participation rates for both girls and boys, when GPIs are at or in the range of.90-1.1. When the GPI >1.1 it indicates an imbalance favoring girls; when <.90 it indicates imbalance favoring boys.Despite its simplicity, however, the GPI can be easily over-interpretedor misinterpreted,and does not connote a high quality schooling experience.

First, the GPI provides no information on whether the initially-enrolled children actually continued their schooling beyond the specific date of data collection. Second, it says little about student attendance—that is, whether those enrolled actually attended school orparticipated in educational opportunities regularly, as provided through instructional programs. Third, it provides no inkling as to the extent to which enrollment levels—

mediated by the school's teachers, activities, or curricula—led to desired student learning outcomes, as measured on teacher-given or external examinations. Finally, in the event that students—both girls and boys— attended primary schools irregularly despite having free access, the GPI sheds no light as to thebarriers to higher student participation levels and engagement in school.

In other words, indicators such as the GPI emphasize countable outcomes that are typically valued at the uppermost levels of national and international policymaking. However, these indicators are rough aggregates,ignoring important local and contextual factors that must be considered in any *improvement-oriented* evaluation system designed to build better primary schools andprograms in tune with the needs of children and families inrealcommunities (UNICEF, 2006; 2007).

The goals of the *EFA* and *MDG* initiatives are laudable and fundamental to fulfilling aspirations of developing nations in a dynamic and globalized world. However, to realize *EFA* goals and set targetsthat more achievable, there is a need to redefine educational quality in more holistic and context-relevant terms. Looking beyond 2015, there is a need to re-prioritize criteria and methods for monitoring progress of schools and schooling with stakeholder and community involvement.

Purpose of the Study

The purpose of this study is to re-conceptualize the meaning of educational quality in more comprehensive and child-centered terms, taking into account local and regional contextual factors. The paper focuses on primary schooling in the state of West Bengal, India, as a case study within the national context of Indian education.

Method

The method employed in this study is a policy theory analysis based on a selectedliterature review relevant to the regional case, West Bengal. As a part of the analysis, the paper compares the rationales underlying internationally-set indicators of educational quality given by the *MDG* and *EFA* efforts, against indicators of educational quality based on a comprehensive model ofprimary education that can support development of the whole child situated in existing family and community structures. This analysis leads to mapping of the underlying assumptions and expectations of the *EFA* and *MDG* initiatives in the form of a *logic model* (Figure 1) (see Donaldson, 2007). It also suggests a revised set of quality indicators for primary education and school monitoring systems.

To start, the paper begins with a discussion of the theoretical and policy frameworks, moving from the international to national, and finally to state and local contexts of policy formulation and implementation. Next, the paper presents a brief discussion of literature on views of comprehensive education of the whole child situated in family and community contexts. It concludes by offering a logic model and broadened definition of educational quality that combines both literature bases. The logic model may be used to guide future program development and evaluation.

Indicators of Quality Based on International Frameworks on Universal Primary Education and Gender Equality

What factors gave the impetus for global EFA initiatives? Cumulative statistics, showing women and children as the major victims of global poverty and vulnerabilities associated with poverty, led the international community to launch multiple initiatives promoting gender equality and universal education (Dasgupta, 1995; UNESCO, 2005; 2007; UNICEF, 2007a-b). For example, two-thirds of the world's illiterate adults over the age of 15 are women. In some societies, women and girls have limited control over their lives and bodies, leading to inequalities in access to education, nutrition, and health-care with reduced fertility rates. High maternal mortality rates abound in the poorest of nations. Because of institutionalization of patriarchic cultural traditions, women and girls also face considerable discrimination under the law within smaller communities of many nations.

Concerted global responses to the above needs began roughly three decades ago, framing the need for education as a basic human right. Specifically, the Convention on the Elimination of All Forms of Discrimination against Women, adopted in 1979 by the United Nations General Assembly, set down rights for women to have freedom from discrimination and equality under the law. The Convention on the Rights of Children set forth provisions that included civil rights and freedoms for children to have access to family-conducive environments, basic health and welfare, education, leisure and cultural activities and special protection measures for children, both boys and girls. UNICEF's focus on basic education is rooted in its value of education as a basic human right, which was first established by Article 28 of the United Nations Convention on the Rights of the Child in 1989 (UNDP, 2005; UNICEF, 2006).

Beyond its construction as a fundamental human right, education is also viewed as a prerequisite for sustainable development of nations and for building human capital. Education lies at the base of a child's social and cognitive development, and is instrumental in lifting social, economic, and cultural barriers to development. Within democracies, improved education and literacy are seen as the primary means to developing individual capabilities necessary for the citizenry to exercise their liberties, rights, responsibilities, and freedom of choice to pursue personal and social goals (Sen, 1999).

Universal education has also been viewed as a means for improving public health by preventing disease, alleviating malnutrition, and mitigating the rapid rate of population growth in many developing countries. Girls' education is documented to lead to later marriage, and maternal education has been proven to be highly correlated to fewer births, longer life expectancies, lower death rates and better child health (UNICEF, 2007b). Women's literacy, particularly the mother's level of education, has been found to impact the quality of child care. Greater literacy levels can potentially allow women to obviate child labor practices, and make better use of public services necessary for improving child care and education. More educated mothers value education for their children. Thus, educating a generation of girls is seen as an investment in education for future generations (Cutler, Deaton &Lleras-Muney, 2006; Khanam&Rahman, 2007).

What was the Vision of Primary Education given by MDGs and EFA? As the lead agency for the U.N.'s Girls Education Initiative (UNGEI), UNICEF responded proactively to the *MDG*s by laying out a high quality, basic education policy and action plan for implementation. Of the eight *MDG*s, Goal 2 aimed to "ensure that all boys and girls complete a full course of primary schooling". Goal 3 sought to "eliminate gender disparity in primary and secondary education by 2005, and at all levels by 2015". As corollaries, women's education and empowerment were also targeted so as to reduce levels of child mortality (Goal 4), improve maternal health (Goal 5), and combat HIV/ AIDS, malaria, and other diseases (Goal 6) (UNICEF, 2006, p. 5).

Equal access and educational opportunity presuppose that schooling conditions will facilitate children's overall development and learning. Many children in the developing world attend schools where sexual violence is common, and where students are exposed to severe corporal punishment, insensitive curricula, oppressive teacher attitudes, or unhealthy and unsafe physical conditions. A child-centered and community-based approach to education is repeatedly endorsed in published documents and proceedings of various UN conferences and international meetings among other *EFA*-promoting organizatons (UNESCO, 2005; UNESCO, 2006; UNICEF, 2007a; UNICEF, 2007b).

In speaking directly to the *MDG*s, Alkire (2004) defined a high quality education comprehensively in terms of the following indicators:

(1) Learners who are healthy, well-nourished, ready to participate and learn, and supported in learning by their families and communities;

(2) Environments that are healthy, safe, protective and gender-sensitive, providing adequate resources and facilities in which trained teachers teach;

(3) Curriculum content that is reflected in relevant curricula and materials for the acquisition of basic skills, especially in the areas of literacy, numeracy and skills for life, and knowledge in such areas as gender, health, nutrition, HIV/ AIDS prevention and peace;

(4) Child-centered classroom approaches implemented in well-managed classrooms, with skillful student assessment to facilitate learning and reduce disparities;

(5) Learning outcomes that are targeted encompass knowledge, skills and attitudes, and are linked to national goals for education, facilitating positive child participation in society.

By adding a programming quality dimension to the *MDG* framework, UNICEF's resolve was toto address some of the severe problems associated with unequal and inadequate education, and provide girls with better educational opportunities.

How did international agencies facilitate implementation of the EFA goals? UNICEF's implementation model involved provision of support to governments and non-government organizations (NGOs) through field offices, located in the 158 nations and territories, which engage in international media campaigns, procure funding and supplies, facilitate innovative programs and initiatives, and also help monitor programs and report progress (UNICEF, 2006).International donors, NGOs and various non-profit partners working in concert with the U.N.'s organizations, including the World Bank, facilitated *EFA* implementation efforts in aspiring nations.

What were the EFAand MDGEvaluation Criteria? Goals and targets were articulated at the international and national levels (referred to as macro-system levels here) for tracking progress in individual schools (referred to as the microsystem level). In any given nation/ region, educational monitoring objectives in UNICEF's implementation plan were to be measured against baseline data from 1990, showing whether primary schools and systems were improving over time. To view the international effort in terms of a hierarchical system, one would see a given school as belonging within a regional area education system, which in turn would be nested within a larger national system, thatin turn, would be responding to consensus-based *EFA*initiatives of global organizations.

Given this background, therefore, it comes as no surprise that initial criteria for monitoring educational quality were set at the macro-system level, and emphasizedmeasurable outcomes that were time-bound, such as the following (UNICEF, 2006 at http:// www.unicef.org/specialsession/wffc/:

(a) reduce the number of out-of-school children by 50%,

(b) increase net enrolment and school participation to at least 90%,

(c) eliminate gender disparities in primary and secondary education by 2005, with full and equal access at all levels of basic education by 2015, and

(d) improve learning outcomes in numeracy, literacy, and essential life skills.

Along the same lines, *EFA* emphasized a basic education for all boys and girls, evaluated based on measurable criteria like the GPI, GER, NER, and EDI indices, number of completed school years, and student performance on external examinations. While to begin with, the larger and more comprehensive vision of *EFA*was indeed for a child-centered education which recognized the local family/community context and the need for educational programming processes to be responsive to local conditions, in operation, educational quality became defined by more easily countable criteria aggregated at the macro-system level.

What were some the repercussions of these internationally-set *EFA*evaluation practices to date on bettering schooling conditions locally? Very little.Critics point out that one side-effect was the ranking of countries or states against each other on indicators like the NER, GER, GPI and such, with public reports comparing and labeling various regions or nations as either stronger or weakerthan the rest in terms of educational quality (Subramanian, 2005). Other problems arose.

(a) Given the complex realities of particular regions, the time-bound goals like 2005 or 2015, were unreachable and carried little local meaning.

(b) There was a lack of consistent indicator definitions based on region-to-region differences in data-gathering systems, conditions, and schedules.

(c) Indicator definitions failed to account for local conditions, economies, politics and contextual diversities that would permit more valid inferences about *why* educational programs were failing to reach expected standards of quality and what could be done to move forward (see Aikman &Rao, 2010; Filmer et al, 2006; Lewin, 2011).

EFA Indicators of Quality Based on India's Educational Development and Monitoring Policies

Let us now move from the international setting to a national *EFA* implementation case. In India, educating children from age six to 14 is primarily the responsibility of the state government. However, on a national level, India has been addressing issues of education throughout its modern history, setting priorities through the Planning Commission's five year plans. Goals for universal education pre-date the U.N. initiatives, and the chief programs in effect since 2001 are the *SarvaShiksha Abhiyan* (SSA, the title translates to *Education for All* in Hindi) and a concurrent Mid-day Meals Scheme to draw children from needy families to schools (http://ssa.nic.in/ssaframework/ssafram.asp#1.0).

The Government of India has been quite responsive to recent international initiatives, aligning national educational goals with UNICEF's *MDG*s and *EFA* (Government of India, 2006). Educational policies are being implemented through a complex network of central and state governmental agencies, non-governmental organizations, and international institutions, including UNICEF and the World Bank.

Earlier, the National Policy of Education 1986 (NPE), revised in 1992, articulated three main objectives in elementary education: a) universal access and enrollment, b) universal retention of children up to 14 years of age, and c) a substantial improvement in the quality of education to enable all children to achieve essential levels of learning. The 86th Constitutional Amendment Act of 2002 further made education a fundamental right. States were required to provide free and compulsory education to all children ages six to 14. Other statutes that address children's rights, although not aimed directly at education, have also contributed significantly to the improvement of girls' participation in education. In 1989, for example, India invoked the Child Labor Law that made the employment of children less than 14 years illegal, except in family owned factories (Aggarwal, 2001; Government of India-Planning Commission, 2006).

SSA Implementation and XIth Plan. The main thrust of SSA implementation in the XIth Plan (2007-12) has been on quality of education and infrastructure improvement within an overall framework of equity. Special attention is to be paid to girls in specific social groups that are especially deprived, in regions where the educational status of women continues to be poor, namely—Scheduled Caste (SC), Muslim communities, Scheduled Tribe (ST), and Other Backward Classes (OBC). The XIth Plan acknowledges the need for the government to work with other agencies to achieve goals, including NGOS, private-public partnerships, and international organizations.

To encourage higher enrollment and retention of girls in the school system, the plan calls for the strengthening of the formal school system through improved accessibility to schools, infrastructure improvement by including sanitation facilities for girls, and improving the quantity and quality of teachers at schools, with an emphasis on female teachers. The call is to particularly increase the pool of educated and trained women teachers among SC, ST, specific OBC and Muslim minority communities (Government of India-Planning Commission, 2006).

The XIth Plan Working Group Report also urged the central and state/union territory governments to increase spending in education in terms of real per-pupil expenditure as a percentage of the Gross Domestic Product (GDP). Expenditures on elementary education in some states were reportedly stagnating in the implementation period of the Xth Plan. At present, the public spending on education is about 3.7 percent of the GDP. Although this is an increase from the 1.4% recorded in the 1960s, the Report urged the national government to fulfill its promised share to 6 percent of the GDP in a phased manner (Government of India-Planning Commission, 2006).

Highly consistent with UNICEF's perspective, the XIth Plan Working Group report comments that the discourse on girls' education has not moved significantly beyond countable notions of parity (gender parity in enrolment) while issues of educational quality, classroom practices and gender equality inside the classroom have remained untouched. Others observers agree on this point. According to Ramachandran (2000), implementation of SSA during the previous Xth Plan period brought about impressive growth in the enrollment of girls and reduction in gender gaps in enrollment and dropouts, yet current trends indicate that India still has a long way to go before gender and social gaps are truly bridged on more comprehensive educational indicators.

The XIth Plan report thus strongly encourages states to refer to the National Curriculum Framework (NCERT, 2005a; 2005b; 2005c) for guidelines to develop their own curricula and syllabi. The construction of a "child-centered" environment, where rote practices are replaced by participatory approaches, and where girls' needs are addressed equally was a main emphasis. Gender sensitivity was to be integrated into both teachers' in-service training and preparatory programs to prevent bias in teacher attitudes. However, the capacity of West Bengal (the case in the present study) to implement the XIthPlan in providing high quality education to all of its children and youth has been questioned by the educational research community .

*Evaluation Criteria and Monitoring Practices in India.*The Indian government's commitments towards the establishment of formal data collection and monitoring effort on a national and regional scale are overseen by the Ministry of Human Resource Development (MHRD) through the District Information System in Education (DISE). But, the vision of universal elementary education has been difficult to realize across the populous and diverse Indian subcontinent, according to researchers (Aggarwal, 2001; Mehta, 2010 for national and regional reports). Nationally, progress towards educational goals continues to be tracked through a number of mechanisms, including the DISE reports, periodic surveys conducted by the National Sample Survey Organization (NSSO) and 10-year censuses.

The 2001 census based on household surveys had shown very small male-female disparity and reductions on literacy in both India and West Bengal, the specific regional focus of the present study and only Bengali-speaking state in India. The raw count of illiterates increased from 305 million to 329 million between 1991 and 2001 as the nation's population size grew to over 1 billion (agarwal, 2001). Thereafter, the mission for attaining universal elementary education was reiterated by India's government through the *SarvaShiksha Abhiyan* (SSA) program.

The original targets of SSA were to achieve universal primary education by 2007, and universal elementary education by 2010. Reporting of progress towards such targets is broken down by state in DISE reports, which have been published through a national agency (NUEPA, that reports to the MHRD) in 2004 and again in 2011-12. As of 2003-04, many regions in India were still struggling to meet these targets (http://ssa.nic.in/ssaframework/ssafram.asp#1.0;, Mehta, 2004a; Mehta, 2004b). Individual state participation has increased greatly, with states reporting the data and certifying its accuracy, and NUEPA maintaining the national database and publishing periodic statistical reports.

Quality indicators are numerous (93) in the recent DISE report (DISE 2010-11, *Flash Statistics*). They include number and types of primary schools, enrollment levels, grade repetition rates, dropout and transition rates, density of schools per 10 sq. km, number of instructional days, student- classroom and teacher-pupil ratios, training and diverse representation of teachers, availability of books and computers, and presence of facilities like concrete classrooms/buildings, toilets, drinking water, playgrounds, and kitchens.

The NER,GER, GPI and an EDI are also reported for each state. The EDI in DISE reports is based on a factor-defined composite index based on a set of 20 indicators that focus on school access, infrastructure, teachers and teaching conditions, and student-level outcomes. The 35 participant states were recently ranked on the composite EDI indices (DISE2010-11, *Flash Statistics*). It should be noted that this broader EDI definition in India varies from international definitions of the EDI, which are weighted primarily on measurable student outcome indicators (Lewin, 2011).

West Bengal –*EFA* Policy Implementation and Regional Needs/Barriers to Universal Primary Schooling

Consider now the case of West Bengal within Indiain terms of *EFA* policy implementation, accounting for regional demographics, politics, and history. West Bengal is the most densely populated state in India, and 72.5 percent of its population are Hindus. Muslims comprise 25 percent; Sikhism and other religions make up the remainder. Agriculture continues to be the leading occupation in West Bengal, although the state is being gradually industrialized since the 1950s. Disadvantaged groups (SC,ST,OBC) form 28.6 percent of the population. The proportion of people living below the poverty line in 1999–2000 was 31.85 percent. This figure is higher than the poverty rate reported for the nation during the same period, which was at 24% (Government of West Bengal, 2004; Guruswamy& Abraham, 2010).

To understand the extent of poverty in West Bengal in international terms, it should be noted that the "poverty line" above is defined by the Government of India based on an extremely low threshold relying on regional norms for food consumption. In 1999-2000, the poverty line was estimated by India's Planning Commission at Rupees (Rs.) 327 and Rs. 454 per month per capita in rural and urban India, respectively. Adjusting for inflation, the figures amounted to Rs. 368 and Rs. 559 per month (see Guruswamy& Abraham, 2009).The exchange rate in 2007-08, the time-point of this study, was about Rs. 45 to 1 USD; in 2013, it is Rs. 52 to 1 USD. In forthcoming national studies sponsored by India's Planning Commission, an updated definition of poverty is expected to be implemented that accounts for consumption of food, healthcare, shelter and education (Chauhan, 2008).

Over time, West Bengal has been undergoing urbanization with two patterns of demographic migration: the influx of the rural population into the cities, and inter-regional migration from neighboring states and nations, such as Bihar, Jharkhand, and Bangladesh. Because migrants tend to be much poorer and far more illiterate, they have insecure forms of employment. The intra- and inter-regional migration, therefore, has important ramifications for the goals of universal education and gender equality, posing severe barriers to reaching highly disadvantaged and mobile migrant groups through government and government-aided schools (Ramachandran, 2000).

West Bengal's previous 33 year Left Front Government was generally acknowledged as a political entity that worked on behalf of the poor, but according to Sengupta and Gazdar (1997) the state's political will had not extended to wider public action in the sphere of social services. Thus, the state was unable to generate the public action to push universal access to primary education and primary health care, as found in more progressive Indian states, such as Kerala. Nor has there been a clear and positive educational policy implemented in favor of girls (Sengupta&Gazdar, 1997).

West Bengal's Education System

Schools in West Bengal constitute a heterogeneous system serving a diverse society, including registered government schools, a system of non-formal schools launched by the state government through the *ShishuSikshaKarmasuchi* (SSK) to address continuing barriers to school access in rural regions, and both aided and non-aided (tuition-driven) private schools that cater to more privileged segments of society. Nationally, private schools were increasing at a phenomenal rate between 1990-2000, driven by demands of a rapidly increasing middle class. However, despite the large increases in the number of schools and school teachers in the 1990s, there are large gaps in physical availability of schools in rural communities in West Bengal (Aggarwal, 2001; Ramachandran, 2000).

Quality of West Bengal's Public Schools

Despite a reported GPI of .98 in 2003 (Mehta, 2004a-b), the issue of lack of access to primary schools by rural communities has been observed by many researchers in West Bengal. Further, a large bulk of government primary schools in West Bengal is deemed to be of poor quality. Major concerns raised by researchers have included the following (Banerjee & Roy, 2003; Dreze &Goyal, 2003; Khan, 1993; Ramachandran, 2000; Rana, Das &Rafique, 2003):

-short supply of resources and schooling infrastructure, with nearly one fifth of all schools without a physical building at all or one-room schools;

-schools lacking toilet facilities for girls and teaching staff—a deterrent for female teachers and girls;

-a lack of adequate female teachers, a fact that adversely influences enrollment levels of girls from particular communities, such as, members of the Muslim sect;

-a short supply of teachers in general, with numerous one-teacher schools;

-teacher–pupil ratios as high as 1:70 with poor instructional delivery processes;

-discouraging attitudes of teachers, despite parents exhibiting high aspirations and an interest in education;

- lack of oversight and poorly-functioning regional accountability mechanisms;

-teacher prejudices toward children from less privileged families, particularly Muslim, OBC, SC and ST children; and lastly,

-grossly inadequate public expenditures.

A general view held by the Indian research community is that West Bengal's government lacks sufficient fiscal and political support for education (Banerjee & Roy, 2003). The share of expenditure in terms of State Domestic Product (SDP) to education is very small compared to other states. During 1995-2000, on average, the state of Assam devoted 5.8 percent of SDP to education, Bihar allocated 5.4 percent, and Rajasthan dedicated 4.7 percent, whereas West Bengal's allocation was only 3.8 percent. Agarwal (2001) projected that the national allocation should be increased from the targeted 6% to 8% with better mobilization of resources from the macro-system to micro-system levels of the Indian system to correct for imbalances.

Primary School Evaluation and Monitoring

There is little or no oversight of government and government-aided primary schools by the state government. Nationally, West Bengal was among the handful of state participants in the second phase of national data collection via the 2004 DISE under the education monitoring infrastructure set up by the MHRD of the Government of India (www.dpep.gov). Results have been mixed and contradictory over time for West Bengal, on DISE indicators.

West Bengal's 2004 DISE reports showed the performance of primary schools, in aggregate, to be far better than that of many other Indian states on several educational indicators.

As indicated earlier, West Bengal's 2003-04 GPI value was reported to be high at .98 on enrollment. The teacher-given examination pass rate was reported at 94%, suggesting that girls and boys were not only enrolling in similar numbers, they were also performing very well when they exited primary school. Upon deeper examination, however, the actual pass rate for girls and boys together in Grade 5 using a 60% correct cut-score, was reported to lie at only 36.5% (see Mehta, 2004b).

However, the 2010-11 DISE report showed more sobering results. This was by far the most large scale data set with 75,151 of West Bengal's primary schools participating. The state's rank was reported to be among the *lowest on the EDI indices*compared with other 35 states and union territories (EDI values range from 0-1, with values closer to 1 indicating better overall educational quality). The demerits of ranking states against one another are many as Indian states vary greatly on governance, linguistic, religious and other variables. But, it is useful to review the 2010-11 DISE results vis-a-vis the main premise of this paper.

For upper primary schools serving grades 2-4, West Bengal's EDI on *access* was .311 with a rank of 34 out of 35 (indicators included% of habitations not served, # schools per 1000 children, ratio of upper to lower primary schools, etc.); on *infrastructure*, the EDI was .650 with a rank of 27 out of 35(indicators included student-classroom ratio, drinking water, toilet and girls' toilet facilities, etc.); on *teachers and teaching*,the EDI was .646 with a rank of 26out of 35 (indicators included % schools with female teachers, schools with teacher-pupil ratio > 40, teachers.without professional qualifications, etc.); and on *student outcomes*,the EDI was .676 with a rank of 26 out of 35(indicators included GER,GPI, minority enrollment rates, dropout, transition and grade repetition rates and so on).

Towards Comprehensive and Child-Centered Definitions of Education Quality

The global and Indian aspirations of *EFA* contrast sharply with the data on actual outcomes achieved to date in West Bengal, the regional case examined in this paper. What would be a compatible view of early education that can be coupled with an implementation model and evaluation system that could facilitate *EFA* goal achievementlocally? This section briefly discusses the notion of "comprehensive early education".

A comprehensive view of early schooling is child-centered and adopts a broader *ecological model* of early education and development. An ecological model takes into account key environmental factors, both at home and in the larger community, that may help or hinder a child's all-round development and potential readiness to engage and succeed in school. This approach has been recommended by several early childhood advocates and experts, particularly for socio-economically disadvantaged and migrant communities (Gordon &Rebell, 2007; Phillips &Zigler, 1987; Rimm-Kaufman, Pianta, & Cox, 2000).

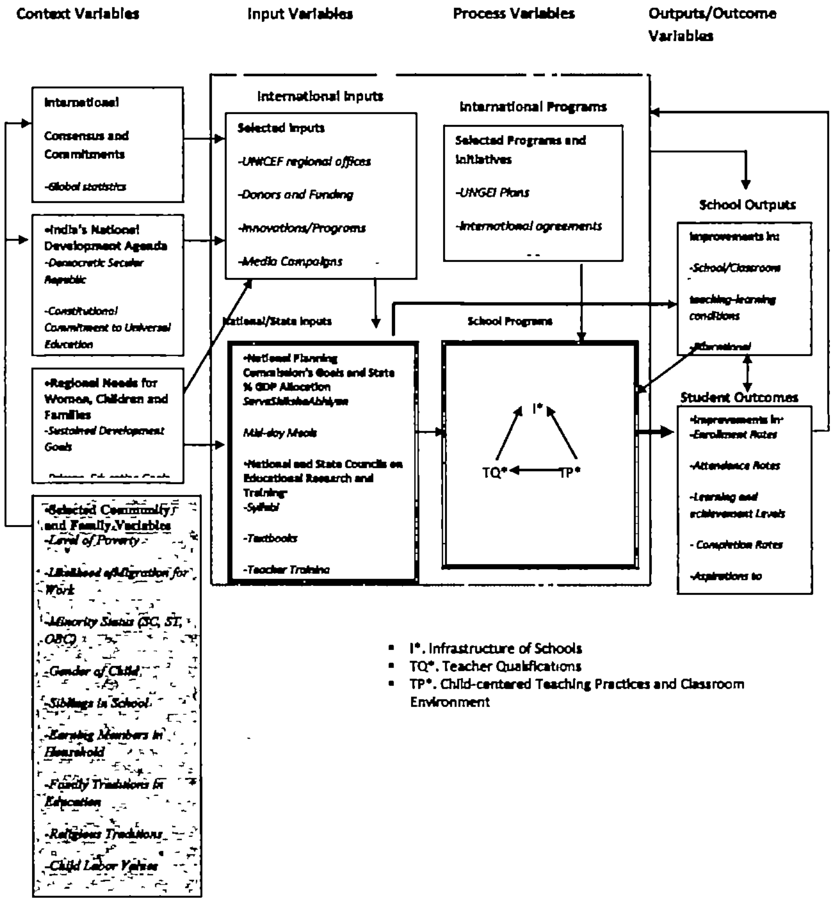
The concept of *Comprehensive Education* can also be found in Cremin's (1975) writings from Teachers College, Columbia University, pointing to the combined influences of families, schools, and the community on an individual's life and "outcomes" at different times. Defined comprehensively, the term *outcome* refers to a person's development in all spheres—physical, health, social, emotional, cognitive and non-cognitive areas. In primary school contexts, such outcomes are expected to result from exposure to either organize or informal events that happen earlier in school or in out-of-school settings. In looking at a child's schooling outcomes comprehensively, therefore,one must take into account a child's earliest experiences from the time of birth through school entry, in their home and community settings as these influences interact with larger national or state education initiatives.

Chatterji, Iyengarand Koh (2009) cataloged variables in a child's life that can be expected to affect readiness for and success in formalschool in a comprehensive sense. These included (a) health and nutrition factors;(b) family legacies, traditions, values and home environment variables;(c) informal or incidental supplementary education supports that parents opt to use either in their homes or in the larger community; and (c) formal preschool or school experiences. In other words, a child's success in the world is contingent on access to bothformal and informal education from the earliest years. Families that are able to expose their children to various informal and cognitively stimulating activities from birth (e.g., visits to the library, park or zoo, singing, playing, story-reading), givechildren an advantage in school.Such experiences predispose children to continue in school supported and encouraged by their families.

Religion may also play a key part in a child's education and how far they aspire to go. Some religious traditions may place restrictions to freedoms and opportunities for boys or girls; others do not. The comprehensive early education literature recognizes that"all children and youth have certain basic developmental needs that could be met through their cumulative involvement in several social contexts." Multiple contexts—family, school, church/temple/mosque, job, neighborhood)—"inform and are informed by the needs ofconnected actors (parents, peers, teachers, employers, neighbors)" who aid in the education of a child in holistic terms (Chaskin& Richman, 1992, p. 109).

The view of education at the primary level given by international and national *EFA* initiatives appears to be closely aligned with this child-centered, comprehensive view, which acknowledges the role of the family and community contexts as a part of a larger national and regional system of education. The school cannot educate a child alone; but it can and typically does serve an important role in a community-based system of comprehensive education.

If such a context-based and holistic framework is accepted, the design and implementationof monitoring systems for primary education must incorporate a few key ideas and constructs from this literature base. The following section presents a *logic model* (Figure 1) to guide formative and improvement-oriented evaluation systems for primary schools that accounts for family and community, within an international and national framework.


Context Variables
Input Variables
Process Variables
Outputs/Outcome Variables
International
Consensus and Commitments
-Global statistics
•India's National Development Agenda
-Democratic Secular Republic
-Constitutional Commitment to Universal Education
•Regional Needs for Women, Children and Families
-Sustained Development Goals
•Selected Community and Family Variables
-Level of Poverty
-Likelihood of Migration for Work
-Minority Status (SC, ST, OBC)
-Gender of Child
-Siblings in School
-Earning Members in Household
-Family Traditions in Education
-Religious Traditions
-Child Labor Values
International Inputs
Selected Inputs
-UNICEF regional offices
-Donors and Funding
-Innovations/Programs
-Media Campaigns
National/State Inputs
•National Planning Commission's Goals and State % GDP Allocation
SarvaShikshaAbhiyan
Mid-day Meals
•National and State Councils on Educational Research and Training
-Syllabi
-Textbooks
-Teacher Training
International Programs
Selected Programs and Initiatives
-UNGEI Plans
-International agreements
School Programs
I*
TQ*
TP*
School Outputs
Improvements in:
-School/Classroom
teaching-learning conditions
-Attitudinal
Student Outcomes
•Improvements in:
-Enrollment Rates
-Attendance Rates
-Learning and achievement Levels
- Completion Rates
-Aspirations to

- I*. Infrastructure of Schools
- TQ*. Teacher Qualifications
- TP*. Child-centered Teaching Practices and Classroom Environment

A Logic Model Depicting *EFA* Policy Theory and Assumptions

Given the literature review, Figure 1 maps the assumptions and logic underlying the international *EFA* and *MDG* efforts, along with India's parallel *SSA* initiatives launched to achieve school-level outputs and measurable student-level outcomes through West Bengal's state education system. Figure 1 shows the main forces that were expected to be operating at different levels, analyzed and sorted as *context*, *input*, *process* and *outcome* variables. In the evaluation sciences, logic models are used for guiding the design of effective assessment and monitoring systems (Donaldson, 2007).

International and National Influences

Context variables (Figure 1, left panel) are defined here as exogenous factors beyond the control of the regional education system and individual schools, that could influence educational resource distributions, how schools are run, schooling conditions and resulting school- and student-level outcomes. Based on the literature, international context factors that led to the thrust for universal and equitable education were global and regional statistical trends showing women and children at a marked disadvantage in poor, marginalized communities and nations. This trend led to an international commitment to universal education and gender equity culminating in the *MDGs*. India's emergence as a secular, democratic nation in 1947 coupled with a national recognition of the role of education as a basic right and means for sustainable development led to successive 5-year plans that influenced regional agendas, including that of West Bengal.

These contextual factors led to several international and national actions to allocate resources (*input variables*—Figure 1, middle panel) with initiation of accompanying programs by international agencies and the Indian government (*process variables*—Figure 1, middle panel). In India, the *SSA*, along with the *SSK* in West Bengal, are among key educational programs that were expected to influence children's outcomes in government schools. To improve reach, numerous formal and non-formal programs evolved to support the government's efforts, run by NGOS, private-public partnerships, and national and international organizations.

Per the Indian Planning Commission's 5-year plans, implementation of these programs in states such as West Bengal (see shaded boxes, Figure 1) were expected to lead to improved school *practices* and *outputs* in three main areas of concern highlighted in legislative and policy documents: teacher quality (TQ), infrastructure of schools (I), teaching practices and classroom environments (TP). These inputs and processes, in turn, were expected engender certain student-level *outcomes* at individual schools (see Figure 1, shaded boxes in right panel).

Regular evaluation and monitoring of schools and schooling conditions through DISE statereports (Mehta, 2004a; 2004b; 2012) and activities of agencies like the NSSO, were expected to facilitate a looping back and utilization of evaluation results into the policy and programming boxes. Such feedback loops were expected to potentially allow for continuous improvements, adjustments and ongoing appraisals of the education system leading progressively towards *EFA* goal attainment (see feedback arrows).

The implications of the system as it now operates, shown with directional arrows, are that with data in hand, regional schools would gradually develop the necessary infrastructure and build resources, teacher capacity, goal awareness and community buy-in, to reach these targets.State resources and national inputs would support school-level goal attainment. (Figure 1). Together, these activities would lead to improvements in both *school level outputs* and *student outcomes* (see right hand boxes).

Adding the Regional and Family -Community Context

Were the *EFA* evaluation system and expectations realistic for West Bengal? As obvious, the community -family context was not sufficiently considered in the national schoolmonitoring model, which aggregated data at the macro-level, ignoring community- and school-level processes as they led to outcomes. Currently there is little by the way of an evaluation and monitoring model in the state. If the literature on a comprehensive and community-based view of education is considered, the box listing *Family* and *Community* factors under *Context Variables* would also be a part of the evaluation system, as shown in Figure 1. Note that only a few *Family* and *Community* variables have been selectively excerpted from the comprehensive education literature as an illustration in Figure 1 (Chatterji, Iyengar&Koh, 2009).

In theory and as the arrows suggest, *Family* and *Community* factors would influence the *Input* (resources are allocated to schools) and the program *Process* boxes (school infrastructure, activities and environment), and in turn, the *Outcomes* (indicators of student learning and development). In the logic model, studentoutcomes represent all-round development of the child, including factors like enrollment levels (NER, GER, GPI and so on).

The logic model can be used for planning and implementation of education programs as well as comprehensive evaluation systems that gather relevant kinds of data from various levels of the multi-level system at different times—schools, districts, state, nation. At suitable points, instruments may be designed to gather data on different variables and indicators of educational quality, either as a part of formative or summative program evaluation studies (Chatterji, 2004).

Why do family and community matter in the guiding framework (Figure 1) used in India for defining and evaluating educational quality? Government schools in India and West Bengal serve the poorest and lowest socio-economic strata of society who cannot afford a private education. The family's level of poverty, mobility and uprooting patterns, religious and cultural legacies for educating boys versus girls, all factor into the extent to which parents would see meaning and relevance in a government school's programs. Family values, legacies and traditions-along with economic freedoms that parents have-play a significant part in whether and how long a child will be able to freely attend and participate in formal schooling in regions like West Bengal (Chatterji, Iyengar&Koh, 2009). These variables must be accounted for in a useful school monitoring framework.

Conclusions and Future Directions

International EFA Goals: Laudable Ends, Incompatible Means

Indicators of educational quality and accompanying evaluation systems, forwarded by global donors and organizations, have a powerful influence on education stakeholders in developing nations who seek out and need the supports. Outside bringing in valuable resources, they shape priorities and strategies for *EFA* goal implementation and evaluation. Such international commitments should continue.

Beyond 2015, however, new thinking must be directed towardsbroadening definitions of educational quality and developing two-tiered evaluation systems that foster community-based program development while meeting national/international accountability needs.

As obvious from the literature discussed, international *EFA* goal frameworks have endorsed child-centered, holistic and context-based views of education. Yet, the accompanying monitoring systems and criteria for tracking educational quality have been limiting, and arepresently incompatible with the original vision of *EFA*. Ideally, school evaluation and monitoring systems for *EFA* initiatives should be multi-level (see Figure 1), placing the development of children first, with the understanding that a school's influences on outcomes are mediated by communities and families served by primary schools.

India as a National Case

On paper and from the start, the Indian government's political energies and goals for social and economic progress are well-aligned with international *EFA* initiatives. Particularly, the Indian government's steps in creating an overall *SSA* framework; promulgation of laws/policies and establishment of agencies to aid in curriculum development, teacher training and evaluation; and provision of support systems like the mid-day meal program, have set out a clear*EFA* agenda for states to follow (Dreze&Goyal, 2003; Government of India, 2006).

Despite such efforts, and 60+ years after independence, progress in basic primary schooling is still very uneven across states. School evaluation and monitoring systems—possibly partially-funded by international donors—currently follow a pre-packaged and limited international model that also operates mainly at the macro-system level. This monitoring system has been unable to improve conditions in primary schools in a vast majority of states and communities(see Ministry of HRMD (2012), *DISE 2010-11 Flash Statistics*).

What is needed is a complementary and *two-tiered approach to school evaluation* for improving the status of primary education from the ground-up. Looking forward, therefore, *school-based case studies*would be a useful added component to the primary school monitoring effort, guided by a comprehensive logic model similar to Figure 1. Development and implementation of both evaluation systems and programs should occur through ongoing exchanges with regional stakeholders.

Periodic case studies of schools wouldinvolve integrative analyses of quantitative and qualitative data collected from different sites. A multiple case study approach will complement large scale data-gatheringsystems from DISE and other national surveys. This will permit cross-site triangulation to derive common and unique findings. Reports should ideally be fed back to schools, regional and community stakeholders in a timely manner to facilitate involvement, planning and improvement of conditions (Patton, 1997; Stake, 2006).

West Bengal as a Regional Case

The public are key stakeholders of the government or taxpayer-supported education systems, along with leaders, teachers, families and the larger community involved in the schools. In theory, therefore, educational stakeholders in democratic systems would help build schools and school systems, take ownership of its programs and policies, and remain engaged in shaping their destiny.

In West Bengal, however, there are real barriers to this ideal. The stakeholders who need free primary schools for their children are frequently the migrant, poor and illiterate—leading to a lack of awareness of their own rights and their children's rights to education. Depending on community needs, school leaders and teachers, along with the state and national media, might begin to play a part in building *stakeholder awareness* on such matters (Government of West Bengal, 2004).

The literature reviewed on West Bengal shows that historical, governance, economic, cultural-religious, community, and family-based variables all matter in establishing and sustaining an effectiveprimary education system. Because primary and secondary education is a state government responsibility, *political priorities* set by the state determine the amount of resources allocated towards improving government and government-aided primary schools towards reaching *EFA* goals.

The state's high *poverty* is a concern. This need provides an opportunity for regional, national and international dialogue on strategies for poverty alleviation and economic development in the state's rural and urban communities,in concert with the goals of education development in the state. In theory, *decentralized systems* provide more autonomy to states, and allocation of a higher percent of the SDP towards primary education should be a public concern (Government of West Bengal, 2004).

The *logic model* (Figure 1) derived from the literature is systems-based and community-oriented, highlighting several context-relevant variables that must be accounted for in helping primary schools succeed in their mission. It suggests that families and communities of children served by schools would be critical actors in achieving *EFA* goals and outcomes in the region. If adopted by stakeholders, the logic model may be useful in opening a discussion to guide the design of programs, implementation and formative evaluation systems. Transparent monitoring, evaluation and stakeholder participation in data use are well-documented to improve community schools and programs(Chatterji, 2004; Cousins & Earl, 1995; Patton, 1997).

Ongoing *parental orientation, education, and supports* must be prioritized in still-developing, high poverty and rural regions, as the literature on both comprehensive education and international development underscores (Chatterji et al, 2009; Derne, 1994; Kabeer, 1994a-b; Khan, 1993; Khanam&Rahman, 2007). Some communities may have occupational needs, ways of life, beliefs and traditions that are incompatible with models of formal schooling found in government schools.

References

Aikman, S. &Rao, N. (2010). *Quality education for gender equality: Background paper for the quality education stream.* Presented at UNGEI conferenceat Dakar, Senegal in May, 2010.

Aggarwal, Y. (2001). *Progress towards universal access and retention: Analytical report.* New Delhi, India: District Primary Education Programme (DPEP)/ National Institute for Educational Planning and Administration (NIEPA).

Alkire, S. (2004).Resourcing gender equality in education.Thinking through rights.In *Beyond access #3.Resources for gender equality and quality education.* Working Paper (preliminary draft).

Banerjee, N., & Roy, P. (2003).*Gender in fiscal policies: The case of West Bengal.* Kolkata, India: Sachetana.

Burnett, N., &Felsman, C. (2012).*Post 2015 Education MDGs: Results for development institute.* UKaid: Overseas Development Institute

Caldwell, B.M. (1989). A comprehensive model for integrating child care and early childhood education *Teachers College Record, 90*(3), 1-11.

Chatterji, M., Iyengar, R., &Koh, N. (2009). Logic models as tools for studying comprehensive education constructs. In E. W. Gordon and H. Varenne (Eds.).*Theoretical perspectives on comprehensive education: The way forward (Volume 2).* Lewiston, NY: The Edwin Mellen Press.

Chauhan, C. (2008). *Definitions of poverty in India: India alters its definition of poverty.* Retrieved on December 1, 2010 from: http://business.mapsofindia.com/india-gdp calculating.html

Chaskin, R.J., & Richman, H.A. (1992). Concerns about school-linked services: Institution-basedversus community-based models. *The Future of Children, 2*(1), School Linked Services,107-117.

Chatterji, M. (2004). Evidence of "what works": An argument for extended-term mixed method (ETMM) evaluation designs. *Educational Researcher, 33*(9), 1-13.

Cousins, J. B., & Earl, L. M. (Eds). (1995). *Participatory evaluation in education.* Bristol, PA: Falmer Press.

Cremin, L. (1975). Public education and the education of the public. *Teachers College Record,*77, 1–12.

Cutler, D., Deaton, M., Angus, S. and Lleras-Muney, A. (January 2006). "The Determinants of Mortality" NBER Working Paper No. W11963. Available at SSRN:http://ssrn.com/abstract=877468..

Dasgupta, P. (1995). The Population Problem: Theory and Evidence. *Journal ofEconomic Literature,* 33(December 1995): pp. 1879-1902.

Derne, S. (1994). Arranging marriages: How fathers' concerns limit women's educational achievements. In C. C. Mukhopadhay& S. Seymour (Eds.), *Women, Education and Family Structure in India* (pp. 83-101). Oxford: Westview Press.

Donaldson, S.I. (2007). *Program theory-driven evaluation science.* New York, NY: Lawrence Erlbaum.

Dreze, J., &Goyal, A. (2003). Future of Mid-Day Meals, *Economic and Political Weekly, XXXVIII (44)*, 4673-4683.

Goodson, B.D., Layzer, J.I., St. Pierre, R.G., Bernstein, L.S., & Lopez, M. (2000). Effectiveness of a comprehensive, five year family support program for low-income children and their families: Findings from the comprehensive child development program *Early Childhood Research Quarterly 15*(1), 5-39.

Gordon, E.W. &Rebell, M.A. (2007). Toward a comprehensive system of education for all children. *Teachers College Record,* 109(7), 1836-1843.

Government of India (2006). *Report of working group on elementary education and literacy for the 11th five year plan.* India: Government of India, Planning Commission.

Government of West Bengal. (2004). *UNDP development report.* UNDP.

Guruswamy, M. & Abraham, R.J. (2010). Redefining poverty: A new poverty line for a new India. India:

Center for Policy Alternatives. Retrieved on December 1, 2010 from: cpasind@yahoo.co.in .

Ministry of HMRD (2012). *District information system for education (DISE): Flash Statistics 2010-11.* New Delhi, India: NUEPA. www.dpepmis.org

Filmer, D., Pritchett, L and Hasan, A. (2006). *A Millennium Learning Goal: Measuring Real Progress in Education.* Center for Global Development – Working Paper # 97

National Council on Educational Research and Training (NCERT). (2005a). *Perspective* (Chapter 1). New Delhi, India: NCERT.

National Council on Educational Research and Training (NCERT). (2005b). *Learning and knowledge* (Chapter 2). New Delhi, India: NCERT.

National Council on Educational Research and Training (NCERT). (2005c). *School and classroom environment* (Chapter 3). New Delhi, India: NCERT.

Patton, M.Q. (1997). *Utilization-focused evaluation* (3rd ed.). Thousand Oaks, CA: Sage.

Khan, S. R. (1993). South Asia. In E. M. King & M. A. Hill (Eds.), *Women's education in developing countries: Barriers, benefits and policies* (pp. 211-246). Baltimore: John Hopkins University Press.

Khanam, R. &Rahman, M. M. (2007). Child work and schooling in Bangladesh: The Role of Birth Order. *Journal of Biosocial Science*, 2007(39): 641-656.

Lewin, K.M. (2011). Policy dialogue and target setting: Do current indicators for Education for All signify progress? *Journal of Education Policy*, 26 (4), 571-587.

Mehta, A. (2004a). *District information system for education: Analytic report.* New Delhi, India: DPEP/NIEPA. www.dpepmis.org

Mehta, A. (2004b). *District information system for education: State report cards.* New Delhi, India: DPEP/NIEPA. www.dpepmis.org

Phillips, D., &Zigler, E. (1987). The checkered history of federal child care regulations. *Review of Research in Education,* 14, 3-41.

Rana, K., Das, S., Sengupta, A., &Rafique, A. (2003). State of primary education in West Bengal. *Economic and Political Weekly, 38*(22), 2159-2164.

Ramachandran, V. (2000). *Universalizing school education: A case study of West Bengal.* Mimeograph.

Sen, A. (1999). *Development as freedom.* New Delhi, India: Oxford University Press.

Sengupta, S., &Gazdar, H. (1997). Agrarian policies and rural development in

West Bengal. In J. Dreze& A. Sen (Eds.), *Indian development: Selected regional perspectives* (pp. 129-205). New Delhi, India: Oxford University Press.

Stake, R.E. (2006). *Multiple case study analysis.* New York: Guilford Press.

Subramanian, R. (2005). Gender equality in education: Definitions and measurements. *International Journal of Educational Development.*25 (4), 395-4-7.

United Nations Development Programme (UNDP). (2005). *Human development report.* UNDP.

UNESCO.(2005). *UIS statistics in brief.* Retrieved on November 23, 2007, from: http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=eng&BR_Country=500

UNESCO. (2005). *EFA global monitoring report.* Retrieved December 1, 2007 from: http://portal.unesco.org/education/en/ev.php-URL_ID=49642&URL_DO=DO_TOPIC&URL_SECTION=201.html

UNESCO. (2007). *EFA global monitoring report summary 2008: Education for all by 2015, will we make it?* Paris: UNESCO.

UNICEF. (2006). *A world fit for children.* Retrieved on December 1, 2007, from: http://www.unicef.org/specialsession/wffc/

UNICEF. (2007a). *Millennium development goals: Promote gender equality and empower women.* Retrieved on December 1, 2007, from: http://www.unicef.org/*MDG*/gender.html.

UNICEF. (2007b). *Basic education and gender equality.* Retrieved on July 20, 2008, from: www.unicef.org/girlseducation/index.php.

FIGURE 1. *Education for All-A Logic Model to Guide Implementation and Evaluation of Primary School Programs in West Bengal, India*

Education of Children with Disabilities in India : Concern and Policy Perspective

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Abstract

Education is the right of every child because it equips him to meet the challenges of life. The children with disabilities (CWD) need this all the more, to supplement their differential talents so that they can prepare themselves for a happy productive and useful life. Efforts to educate children with disabilities began soon after independence in India. An attempt has been made to examine the policies and legislations for educating the children with disabilities in India after post- constitution era. In the final section, challenges for providing education to CWD and in that light some recommendations were made.

Key- Words : Inclusive Education, Special Needs, Human Rights

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Introduction

India is the largest democracy in the world. According to Census 2011, there are 1.2 billion people in the country, out of which, about 833 million people live in rural areas. Census 2011 data on disability has not been announced yet. United Nations observes that 10% of the population has disability and there are about 120 million people with disabilities in India. Disability is difficult to define since it varies in type, form and intensity. Understanding disability will require understanding of these differences. As per the World Health Organization; Disability is an umbrella term, covering impairments, activity limitations, and participation restrictions, impairment is a problem in body function of structure; an activity limitation is difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus disability is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which he or she lives. The Convention on the Rights of Persons with Disabilities (2006), the first legally binding disability specific human rights convention, adopted by the United Nations gives two descriptions of disability. The Preamble to the Convention states that "Disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinder their full and effective participation

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in society on an equal basis with others". Again it emphasizes that "Persons with disabilities include those who have long term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others". Both the expressions reflect a shift from a medical model to social model of disability. In the medical model, individuals with certain physical, intellectual, psychological and mental impairments are taken as disabled. According to this, disability lies in the individual as it is equated with restrictions of activity with the burden of adjusting with environment through cures, treatment and rehabilitation. In contrast in the social model the focus is on the society, which imposes undue restrictions on the behaviour of persons with impairment. In this, disability does not lie in individuals, but in the interaction between individuals and society. It advocates that persons with disabilities are right holders and are entitled to strive for the removal of institutional, physical, informational and attitudinal barriers in society.

In India, different definitions of disability conditions have been introduced for various purposes, essentially following the medical model and, as such, they have based on various criteria of ascertaining abnormality or pathologic conditions of persons. In absence of a conceptual framework based on the social model in the Indian context, no standardisation for evaluating disability across methods has been achieved. In common parlance, different terms such as disabled, handicapped, crippled, physically challenged, are used inter-changeably, indicating noticeably the emphasis on pathologic conditions. In India Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act 1995 defined as a person suffering from not less than forty percent of any disability as certified by a medical authority. The disabilities identified are, blindness, low vision, cerebral palsy, leprosy, leprosy cured, hearing impairment, loco motor disability, mental illness an mental retardation as well as multiple disabilities. The National Sample Survey Office (NSSO) considered disability as "Any restriction or lack of abilities to perform an activity in the manner or within the range considered normal for human being". It excludes illness / injury of recent origin (morbidity) resulting into temporary loss of ability to see, hear, speak or move. Presently, there has been a considerable shift in the understanding of disability, from earlier medical interpretations of seeing disability as a deficit within the individual to that of viewing it in the context of a Human Rights issue. Education is a human right with immense power to transform. Education of children with disabilities (CWD) has been a part of policy developments in India for the past few decades. The policies of the government of India towards the education of children with disabilities have been reflected in the enactments, schemes and through institutions established for various relevant activities.

Profile of Elementary Education and Literacy of CWD

According to the NSS 58th round (Jul.–Dec. 2008) 25 percent of the literate population of people with disabilities had received education up to the primary level (five years of schooling), 11 percent up to the middle level (eight years), while a mere 9 percent had nine or more years. Interestingly, enrolment ratios for those with disabilities aged 5 to 18 years in a mainstream school were higher in rural areas than in the urban areas.

Data on children with disabilities in elementary classes collected under District Information System for Education (DISE) reveals that their number varies from year to year. In the year 2003–04, there were 1.75 million such children as against 1.40 million in 2004–05. However, their number has always remained around one percent of the total enrolment in elementary classes. In 2006–07, about 1.42 million children with disabilities were enrolled in elementary classes across the country, of which 1.04 million were in primary and 0.38 million in upper primary classes. The percentage of children with disability, in primary, is 0.79 and in upper primary 0.80 of the total enrolment in these classes. The corresponding percentage at the elementary level is 0.80. Table–1 indicates the differences in enrolment according to the type of disability. Almost one in every three children with disabilities in elementary classes has some problem in moving (28.56 percent). About 24 percent are visually handicapped, 12 percent hard-of-hearing, 12 percent disabled in speech, about 17 percent are mentally retarded and 7 percent have other types of disabilities. Some interesting differences are evident as children make the transition from primary to upper primary classes. Compared to 20.79 percent of children with visual impairment in primary classes, their percentage in upper primary classes is as high as 32.87. On the other hand, figures for children with mental retardation show a significant decline in numbers.

Table 1 : *Enrolment According to the Type of Disability*

Disability in	**Enrolment(%) in Grade**		
	I – V	VI – VIII	I – VIII
Seeing	20.79	32.87	24.02
Hearing	11.69	11.04	11.52
Speech	13.04	8.28	11.77
Moving	27.28	32.09	28.56
Mentally Retarded	19.68	8.62	16.73
Others	7.51	7.10	7.40
Percent to Total Enrolment	**0.79**	**0.80**	**0.80**

Source : Compiled from DISE 2006–2007.

More recently, there have been growing scope regarding issues of access and enrolment of the CWD in the mainstream for their integration into society. The Persons With Disabilities Act, 1995 and the Right to Education Act, 2009 have given a new thrust to the education of children with disabilities, as without including them the objectives of Universalization of Elementary Education(UEE) can not be achieved.

Policy and Legislative Frameworks

In this section the main international and national level policy frameworks and legislations are explained that are relevant to education and to children with disabilities.

1. Constitutional Safeguards : The Constitution of India (26 November, 1949) clearly states in the Preamble that everyone has the right to equality of status and opportunity. It ensures for all its citizens equality before the law, nondiscrimination and the right to life and liberty (Article 14, 15, 19 and 21 respectively of the Constitution). These Articles do not specifically refer to persons with disabilities but are general in nature. The article 41 of the Directive Principles of the Indian Constitution supports the right to work, to education and to public assistance in certain cases including disablement. Further, article 45 commits to the provision of free and compulsory education for all children up to the age of 14 years. Based on this, the Constitution (86th Amendment) Act 2002, has been enacted by the parliament making education a fundamental right of all children in the age group of 6–14 years.

2. Kothari Commission (1964–66): The Kothari Commission officially first addressed issues of access and participation by all. It stressed a common school system open to all children irrespective of caste, creed, community, religion, economic condition and social status. In 1968, the National Education Policy followed the commission's recommendations and suggested the expansion of educational facilities for physically and mentally handicapped children, and the development of an 'integrated programme' enabling handicapped children to study in regular schools.

3. National Policy on Education (NPE) – 1986: The NPE brought the fundamental issue of equality centre stage. Section 4.9 of the policy clearly focuses on the needs of the children with disabilities. "The objective should be to integrate the physically and mentally handicapped with the general community as equal partners, to prepare them for normal growth and to enable them to face life with courage and confidence. The following measures will be taken in this regard:

- Wherever it is feasible, the education of children with motor handicaps and other mild handicaps will be common with that of others;
- Special schools with hostels will be provided, as far as possible at district headquarters, for the severely handicapped children;
- Adequate arrangements will be made to give vocational training to the disabled;
- Teachers' training programmes will be reoriented, in particular for teachers of primary classes, to deal with the special difficulties of the handicapped children and
- Voluntary effort for the education of the disabled will be encouraged in every possible manner".

4. Integrated Education of Disabled Children (IEDC): The Government of India's appreciation of the need to integrate children with disabilities came in 1974, when the Union Ministry of Welfare launched the centrally sponsored scheme of Integrated Education of Disabled Children (IEDC). In 1982, this scheme was transferred over to the then Department of Education of the Ministry of Human Resource Development. The centrally sponsored scheme of Integrated Education of the Disabled Children provides educational opportunities for the disabled children in common schools, to facilitate their retention in the school system, and also to place in common schools, such children already placed in special schools after they acquire the communication and the daily living skills at the functional level.

5. Plan of Action (POA) – 1992: The NPE was followed by POA (1992). The POA suggested a pragmatic principle for children with special needs. It postulated that a child with disability who can be educated in a general school should be educated in a general school only and not in a special school. Even those children who are initially admitted to special schools for training in plus curriculum skills should be transferred to general schools once they acquire daily living skills, communication skills and basic academic skills.

6. Rehabilitation Council of India Act (RCI–1992): The POA was strengthened by the enactment of the RCI Act, 1992. Experience showed that there was no mechanism in the country to standardize and monitor the training of special educators and other rehabilitation professionals in the country. Therefore, in 1992, Parliament of India enacted the RCI Act, subsequently amended in 2000, to establish a statutory mechanism for monitoring and standardizing courses for the training of 16 categories of professionals required in the field of special education and rehabilitation of persons with disability. Training of special educators and resource teachers that can offer support services to children with disabilities in regular schools is the responsibility of RCI.

7. Persons with Disabilities (Equal Opportunities, Protection of Rights & Full Participation) Act, 1995: The most landmark legislation in the history of special education in India is the Persons with Disabilities (Equal opportunities, protection of rights & full participation) Act, 1995. This comprehensive Act covers seven disabilities namely blindness, low vision, hearing impaired, loco motor impaired, mental retardation, leprosy cured and mental illness. Chapter V (Section 26) of the Act, which deals with education, mentions that the appropriate Governments and the local authorities shall:

- Ensure that every child with a disability has access to free education in an appropriate environment till he attains the age of eighteen years;
- Endeavour to promote the integration of students with disabilities in the normal schools;
- Promote setting up of special schools in governments and private sector for those in need of special education, in such manner that children with disabilities living in any part of the country have success to such schools;
- Endeavour to equip the special schools for children with disabilities with vocational training facilities.

8. National Trust Act–1999: Another landmark legislation is the National Trust Act. In 1999, the Indian Parliament passed an Act entitled "National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disability. This Act seeks to protect and promote the rights of persons who, within the disability sector, have been even more marginalized than others. Though the National Trust Act of 1999 does not directly deal with the education of children with special needs, one of its thrust areas is to promote programmes, which foster inclusion and independence by creating barrier free environment, developing functional skills of the disabled and promoting self-help groups.

9. Project for Integrated Education for the Disabled (PIED): In 1987, to fulfil the provisions for disabled children in the NPE (1986), the government launched the Project for Integrated Education for the Disabled (PIED). It was a joint venture of MHRD and UNICEF. It states 'wherever feasible, the education of children with motor handicaps and other mild handicaps will be in common with that of others'.

10. District Primary Education Programme (DPEP): The success of PIED led to the inclusion of the component of Integrated Education of the Disabled (IED) in DPEP, a scheme launched in 1994 by the Government of India for the development of elementary education. At present, IED in DPEP is going on in 242 districts of 18 states. In these states, approximately 6.21 lakh children with special needs have been enrolled in regular schools with adequate support services.

11. World Commitment on Education as a Right: The right of every child to education is proclaimed in the **Universal Declaration of Human Rights (1948)** and was strongly reaffirmed by the **World Declaration on Education for All (1990)**. The philosophy agreed upon at the Jometien World Declaration included the following statements:

- Every person – child, youth and adult – shall be able to benefit from educational opportunities designed to meet their basic learning needs.
- The learning needs of the disabled demand special attention. Steps need to be taken to provide equal access to education to every category of disabled persons as an integral part of the education system.

The **UN Standard Rules on the Equalisation of Opportunities for Persons with Disabilities (1993)** was an important resolution for improving the educational conditions of persons with disabilities. This had major implications for the Indian situation in the form of three legislative acts – the RCI Act (1992), PWD Act (1995) and National Trust Act (1999). **The Salamanca Statement and Framework for Action on Disability Education (1994)** emerged as a result of deliberations held by more than 300 participants representing 92 governments including India and 25 international organisations in June 1994. For furthering the objectives of education for all, it considered the fundamental policy shifts required to promote inclusive education. It emphasises that schools should accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions. The statement affirms, '*Those with special educational needs must have access to regular schools which should accommodate them within a child centred pedagogy capable of meeting these needs*".

12. The Sarva Shiksha Abhiyan (SSA) : SSA has been operational since 2000-01 in partnership with state governments to achieve the goal of Universalisation of Elementary Education. This adopts a ZERO rejection policy and uses an approach of converging various existing schemes and programmes. It covers the following components under education for children with disability –

- Early detection and identification.
- Functional and formal assessment.
- Education placement.
- Aids and appliances.
- Support services.
- Teacher training.
- Resource support.
- Individual Educational Plan (IEP).
- Parental training and community mobilisation.
- Planning and management.
- Strengthening of special schools.
- Removal of architectural barriers.
- Research.
- Monitoring and evaluation.
- Girls with disability.

13. The RTE Act, 2009 : After a continual demand of making the education a fundamental right from all corners, the government made the 86th Amendment of the Constitution of India (2002). The 86th Amendment introduced new Article 21A, making the right to education of children from 6 to 14 years of age a fundamental right. Article 51A (K) was added to Part IV-A of the Constitution as a fundamental duty of parents to provide opportunities for education to their children aged between 6 and 14. The Right of Children to Free and Compulsory Education Act, 2009, commonly known at RTE Act, 2009 was finally passed by the parliament on the 26th August, 2009 (notified on February 16, 2010 to come into effect from April 1, 2010). This act puts the responsibility of ensuring enrolment, attendance and completion on the government. The RTE Act tries to safeguard the rights of the children belonging to the disadvantaged groups and the weaker sections, protect them from any kind of discrimination and ensure their completion of elementary education. As per Amendment in the RTE Act (2010), children with disabilities have been included in the definition of child belonging to disadvantaged group in the Section 2(d) of the RTE Act. The landmark step mentioned in this Act that Section 12(1/C) mandates for private unaided and specified category schools to admit at least 25% of its entry level class from children belonging to weaker and disadvantaged groups.

Some of the important milestones in the field of disability are shown in the following Diagram - 1:

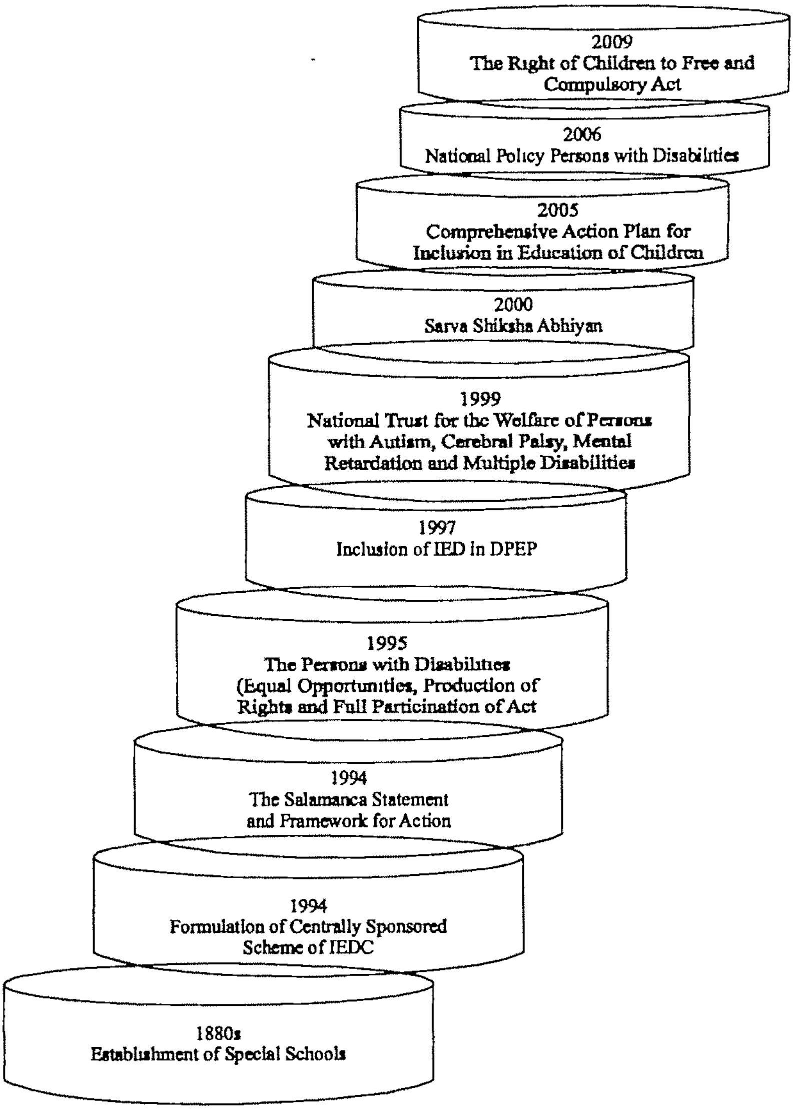
2009
The Right of Children to Free and Compulsory Act
2006
National Policy Persons with Disabilities
2005
Comprehensive Action Plan for Inclusion in Education of Children
2000
Sarva Shiksha Abhiyan
1999
National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities
1997
Inclusion of IED in DPEP
1995
The Persons with Disabilities (Equal Opportunities, Production of Rights and Full Particination of Act
1994
The Salamanca Statement and Framework for Action
1994
Formulation of Centrally Sponsored Scheme of IEDC
1880s
Establishment of Special Schools

Diagram – I : Important Milestones for Education of CWD

Source: Julka (2007). Meeting Special Needs in Schools, NCERT, p 20.

Challenges of Providing Education to CWD

In spite of all the efforts taken at various levels to include children with disabilities in the learning process, there are a number of factors that still hamper their progress and leave them to fend for themselves. Many times persons with disabilities are still not accepted by society as equals and have to make great effort to realise even their most basic rights. The obstacles in the path of development are overcome by struggles and hard work on the part of the disabled themselves and by others who advocate on their behalf.

1. The Challenge of Poverty Associated with Disability: India is the world's second most populated country. Despite impressive gains in the last few decades (11th largest industrial power, 4th largest economy in terms of purchasing power parity) India still has more than 260 million people living in poverty. A large number of children with disabilities live in families with income significantly below the poverty level. According to Mondal & Mete (2012), while disability causes poverty, it is also possible that in a country like India, poverty causes disability. The combination of poverty and disability results in a condition of "simultaneous deprivation". This is a syndrome that sets up barriers to the participation of persons with disabilities in the normal routines and activities of the community, including regular schooling. However, data released in 2009 by the Government of India estimates the percentage of the population living below the poverty line to be 37%. So, motivating poor families, with all the associated costs to send their child to school, is proving to be a big challenge.

2. The Challenge of Modifying Deeply Held Attitude: Attitudes of the non-disabled are proving to be a major barrier in the social integration of persons with disabilities. "The more severe and visible the deformity is, the greater is the fear of contagion, hence the attitudes of aversion and segregation towards the crippled". Such attitudes reinforced by religious institutions may militate against any attempts to include students with disabilities into regular schools (Kauts & Bhardwaj, 2012). For example, Hindus (who constitute 85 percent of the total population in India) believe that disability is a consequence of misdeeds performed in the previous life (often referred to as the doctrine of Karma).Any attempts to improve the life of a person with a disability may be considered a "defiance of the wills of Allah or as interference with a person's karma".

3. Building Awareness about the Provisions: People, including parents and school personnel, are largely unaware of the full intent of the recent legislation passed by Indian Parliament. A large number of school personnel are also not aware of funding available to include students with disabilities in regular schools. Unless people, especially parents of children with disabilities and school personnel, are made knowledgeable about the various provisions enshrined in the Act, the Central and State governments' commitment to providing integrated education will be in vain. Although some attempts are being made to disseminate information about the Persons with Disabilities Act to parents, to government officials and non government organizations, they have been extremely limited in coverage.

4. The Challenge of Providing Adequate Levels of Training to Key *Stakeholders*: The majority of school personnel in India are not trained to design and implement educational programs for students with disabilities in regular schools. Most teacher training programs in India do not have a unit on Disability Studies. The universities, which do cover some aspects of special education in their teacher training programs, fail to train teachers adequately to work in integrated settings. Moreover, the majority of schools in India are poorly designed and few are equipped to meet the unique needs of students with disabilities. The lack of disability friendly transportation services and accessible buildings are considered by some to be far greater problems than social prejudice and negative attitudes. Both the Central and State governments will have to provide increased resources to this aspect of education to ensure successful implementation of integrated practices in schools. Studies on "Efficacy of mainstream teacher's sensitization training on inclusive education under SSA" done by Nanda and Nanda (2007) suggest that sensitization training helps in capacity building of mainstream teachers and education officers at least in respect of knowledge about disability and attitude.

Suggestions

- If education of the CWD is to become a reality in India, the training of teachers has to become a top priority. The teachers need to be provided with intensive training to work with various disabilities. In-service teachers also need continued training to update their skills and knowledge of inclusive education strategies.
- Different ministries in India (MHRD, Ministry of Social Justice and Empowerment, Ministry of Labour etc.) have to work together for the education of the CWD.
- There are more than one million NGOs working in India (Canadian International Development Agency, 2003). Although not all of them are working in the education sector, a large number still provide educational services to children with disabilities. These organizations can play a significant role in implementing integrated education because they are widely located in India and can serve both urban and rural school communities.
- Attitudinal barriers engrained as part of India's historical response to disability must be changed through education programmes for both teachers and the general populace.
- It is essential to address issues related to infrastructural facilities, curriculum and educational materials for education of children with disabilities. It is also

necessary to establish an alternative system of examination for CWD. Students in this system should be asked to do activities that demonstrate their abilities rather than disabilities (Kauts & Bhardwaj, 2012).

- Make all schools inclusive by removing physical barriers, reviewing barriers created by admission procedures (screening, identification, parental interaction, selection and evaluation), building the capacity of teachers to function in an inclusive setting and by involving parents, family and the community at all stages of education.
- Finally, the provisions regarding the education of the CWD under the Persons with Disabilities Act, 2005 and the RTE Act, 2009 must have effective and successful implementation.

Conclusion

There is no doubt that the dream for discrimination free and equal education for the children with disability may require a comprehensive change in the institutional arrangements and legal provisions but the most important change has to come in our minds, in our thinking and attitude towards the disabled. The need of the hour is concerted efforts amongst various stakeholders to be made in a time – bound manner. We need to fulfil our obligations to this country and to the international community. What is urgently needed is the political will to ensure that disability is included across all policies, across and all Ministries and Departments, and a time is fixed to make our facilities, schools, colleges, public places, etc. accessible for all people with disabilities and adequate resources allocated. Removing barriers to accessing education and to learning for children with disabilities are prerequisites for the realization of Education for All. To ensure that all children have access to quality education, education policies and practices must be inclusive of all learners, encourage the full participation of all, and diversity as a resource, rather as an obstacle. Inclusive education will pave the way to prosperity for individuals and for the society. This prosperity will, in turn, lead to a more peaceful and sustainable development of humanity. To conclude, we repeat the words of Prof. Tanmoy Bhattacharya (2010) – "With the conviction that a disability driven education system is empowering for all people and forms of knowledge, if such a change in ethos is brought about, we will all benefit.

References

Ahamad, W. (2012). Barriers of Inclusive for Children with Intellectual Disability.Indian Stream Research Journal, 2(II).

Bhattacharya, T (2010). Re-examining Issues of Inclusion in Education, Economic & Political Weekly XLV(16)

Bindal, S. & Sharma, S. (2010). Inclusive Education in Indian Context, Journal of Indian Education. XXXV(4):34-44

Julka, A. (ED) (2007). Meeting Special Needs in School – A Manual, New Delhi : NCERT

Kauts, A. & Bhardwaj, P. (2012). Inclusive Education: Concerns and Policy Perspectives, University News 50(02) : 7 – 13.

Ministry of Information & Broadcasting (2013). Disability, YOJANA – A Development Monthly Vol. 57, April 2013.

Ministry of Law, Justice and Company Affairs (1996). PWD ACT, 1995 The Persons With Disabilities, New Delhi: MOLJCA,GOI.

Mondal, A. & Mete, J. (2012). Inclusive Education: Paradigm Shift in Education for Children with Special Needs in India. In Kumar. T. Pradeep (Eds.), Innovative Trends in Education. New Delhi : APH Publishing Corporation

Ministry of Statistics and Programme Implementation (2012). Manual on Disability Statistics, MOSPI, GOI : New Delhi.

Ministry of Law and Justice (2009). The Right of Children to Free and Compulsory Act, 2009, New Delhi:MOLJ,GOI.

UNESCO (1994). The Salamanca Statement and Framework for Action – 1994, Geneva: UNESCO Special Education, Division of Basic Education.

Elementary Education of Slum Children: An Attempt to Reach the Un-reached

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Abstract

Slums are a universal phenomenon and exist in almost all cities across the world. The under privileged children residing in the slums are deprived of various basic amenities that the non-slum children in general do enjoy so they need special attention. As per 2011 Census report in India roughly 1.37 crore households or 17.4% of urban households lived in slums, in Kolkata it was estimated to be 29.6%. Education plays a pivotal role in laying a proper foundation for the over-all socio-economic development of any region. Right of Children to Free and Compulsory Education Act 2009 provides children the right to free and compulsory admission, attendance and completion of elementary education. This study tries to assess the impact of living condition, home and surrounding environment, parental education, school condition on elementary education of slum children of Kolkata of 6-14 years age group. Purposive random sampling technique was adopted. Data were collected from 440 households through a socio-economic status schedule and 42 teachers including headmaster of 18 schools through a schedule on physical facilities of primary school. Both qualitative and quantitative analysis was done. Of the total 968 children of 6-14 years age group it was found that 27.27% were non-enrolled, 24.17% were drop-out while 48.56 were continuing formal education. It was found that migration, health, nature of occupation of the family, mother's level of education, per-capita income of the family, living condition, home and surrounding environment, school infra-structure has a positive impact on child's education.

Key Words: *Elementary Education, Slum Children, Home Environment in Slum, Primary School, Migration.*

Introduction

Urbanization accompanied by sustained population growth due to large scale migration leads to mushrooming slum settlement. Thus, slums are a universal phenomenon and exist practically in almost all cities across the world. About 828 million or 33% of the urban population of developing countries resides in slums. Sub-Saharan Africa consists of about 62% urban population living in slums. In Asia, the proportion of urban population living in slums varies from 25% in western Asia to 35% in south Asia. In Latin America and the Caribbean slum prevalence is 24%. (UN-Habitat 2010).

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In India roughly 1.37 crore households or 17.4% of urban households lived in slums which means nearly 1 in every 6 urban households lived in slums. Over a third of India's slum population lives in its 46 million plus cities. Of the four metro cities Mumbai has the highest proportion of slum dwelling households (41.3%) followed by Kolkata and Chennai (29.6 and 28.5 % respectively). Delhi, the capital of India has 14.6% of its households living in slums. Among all million plus cities Vishakhapatnam has the highest population of slum dwellers (44.1%). Decadal growth over the period 2001-11 shows that population has increased by more than 181 million, % of growth is 17.64, literacy has gone up from 64.83% to 74.04% and slum population has increased from 75.26 million to 93.06 million. (Census 2011).

It is important to focus on slum population for the following three reasons. Firstly, inadequate access to safe drinking water and sanitation in slum can affect the advantage of living in urban areas, thereby making slum dwellers a disadvantaged group. Secondly, the population growth rate in slums is higher than in other urban locations. Thirdly, among the Millennium Development Goals, the one that explicitly focuses on urban area is Goal No. 7 (Ensure Environmental Sustainability) of which target No. 11 states that 'By 2020 to have achieved a significant improvement in the lives of at least 100 million slum dwellers. Poverty, illiteracy, unemployment and ill-health are the basic problems of the developing countries in general, and India in particular. These are the root causes of all the global problems stagnating and degrading both the development of the country and its citizens. It is rightly recognized that, 'Poverty is not only a problem of low income; rather it is multi-dimensional problem that includes low access of opportunities for developing human capital and to education' (World Bank ,1994). On the other hand education is an important form of human capital that improves productivity, health and nutrition of the people of a country and slows down the population growth.

The concept of slum and its definition may slightly vary depending upon the socio-economic condition or local perception prevailing in the society but the general physical characteristics of most of the slums are found to be essentially same world-wide. Slums are usually a cluster of hutments with dilapidated and unstable structures having common toilet, lack of basic amenities, inadequate arrangement of drainage and disposal of solid waste and garbage (GOI report on Slum Population, 2005). Slums are highly unhygienic and disease prone. These areas are also breeding ground for various anti-social activities like crime, theft, burglary, drug-addiction and so on. When urban area on one hand is characterized by modern life-style, having access to latest technologies, higher level of educational attainment, high income, more opportunities, fashion and health conscious, better communication facilities on the other hand the urban poor and marginalized group suffers from adequate standard of living and access to health, education and meaningful and well paid employment opportunities.

Education plays a pivotal role in laying a proper foundation for the over-all socio-economic development of any region. Education is considered as one of the principal means to foster deeper and more harmonious form of human development and thereby to reduce poverty, exclusion, ignorance, oppression and war (Dellor Commission, 1996). In India since Independence (1947) several initiatives have been taken for qualitative and quantitative expansion of elementary education like operation black-board, DPEP, SSA, mid-day meal scheme and many others , one of the latest being RTE. The RTE Act 2009, provides a justifiable legal frame work that entitles all children between the ages of 6-14 years to an education of reasonable quality, based on the principles of equity and non-discrimination. It provides children right to free and compulsory admission, attendance and completion of elementary education. Standing at this juncture it is absolutely necessary to understand and evaluate the present scenario of slum children in regard to access, retention and completion of elementary education of satisfactory quality. In this context the researcher would like to study the prevalent problems of non-enrolment, drop-out and irregular attendance of slum children of 6-14 years age group of Kolkata.

Objectives of the study

1. To study the socio-economic condition of the slum dwellers. It includes demographic characteristics like type and family size, whether migrated or not, gender, age; income, education and occupation of the family.

2. To find out the problems of the slum children in achieving elementary education.

Method

Purposive sampling technique was adopted. Altogether 440 households were selected from 10 slums, 5 each from two wards 37 and 78 under Kolkata Municipal Corporation were taken as sample. In addition 18 schools situated mostly within these two wards or adjoining wards which were mostly attended by the slum children were also taken. Information regarding economic condition, occupation, education level of the family, home environment and living condition of home were collected from household survey by using socio-economic schedule and data about physical facilities in primary schools were collected from teachers and headmaster/headmistress through schedule on physical facilities. Secondary data like Census report, reports on various commissions and committees, related literature were also used. Percentage, mean, chi-square and ANOVA were used for quantitative analysis of data. Qualitative analysis was made on the basis of observation and discussion carried out during household survey and school visits. The study is delimited to slum children of 6-14 years age group in Kolkata.

Findings

Demographic structure

It was found that almost 80% families were nuclear with an average family size consisting of six members. Out of the total number of households taken for the study it was found that almost 24.36% families were migrated from different parts of India specially from neighbouring states like Bihar, Orissa, Jharkhand, Chattisgarh or even from Uttar Pradesh and Madhya Pradesh. It was also found that greater percentage of fathers (17.25%) than mothers (5.75%) were absent in the families either due to death or because they have left families (separated/divorced) and settled elsewhere. Widow and separated women mostly of young age usually returns back to her maiden home and lives there along with their children. It was found that 40.28% population belonged to 6-14 years age group and total 58.96% (male 694, female 723) population belonged to below 18 years age group.

The earlier as well as present studies have recognized that adequate, safe and secured housing is another important problem area that still persists among the slum dwellers. Two types of houses were mostly found during this study, brick wall with concrete roof or asbestos roof, no separate kitchen or closed bathroom but one common latrine which is mostly dirty and unhygienic. Dirty water over flowing through broken or cracked pipes spreads foul smell all around. These are the breeding place for diseases. None of the slum dwellers owned any house. At the entrance of each room utensils, cooking materials, buckets and drums (either filled or empty) are kept. Used utensils with stale left over foods and even garbage are found to be heaped here and there which gets scattered by street dogs and cats and also spreads foul rotten smell.

Occupation, income and education of the slum dwellers

For classification of occupation, "Revised Indian National Classification of Occupation – 2004 was followed in this study and it was found that majority of the head of the families were engaged in elementary occupation where income is not only poor but also uncertain and depends upon availability of work. They were hawker, delivery man, porter, sweeper, van puller, rickshaw puller, daily wage labourer, domestic helper, cobbler, people engaged in stitching and embroidery work and so on. Near about 10% head of the families were not engaged in any economic activities either due to old age, illness, laziness or because of drug/ alchohol addiction.

Monthly income of the total number of households taken for study were broadly classified into three groups as i) not more than Rs. 2000 ii) between Rs. 2001 and Rs. 4000 and iii) more than Rs. 4000 and it was found that almost 57% belonged to the first category, near about 33% belonged to the second group and only about 10% belonged to the third group.

For demarcating poverty line help of 61st Round National Sample Survey (NSS) 2004-05 was taken. According to it, in urban areas of West-Bengal monthly per capita income/

person were considered as Rs. 449.32. It was found that near about 73.29% households fall below poverty line. Of the remaining almost 27% households who were seen to be above poverty line almost about 16.45% were marginal cases where per-capita income per month fluctuates between Rs. 451 to Rs. 550. Not even 10% families were found whose monthly per-capita income was more than Rs. 750.

Of the total 968 children of 6-14 years age group it was found that 27.27% were non-enrolled (NE), 24.17% were drop-out (DO) while 48.56 were reading (R) or continuing education. Net Enrolment Ratio (NER) at elementary education level was found to be 72.73%. Regarding parental educational status of these children it was found that more mothers (55.97%) than fathers (44.71%) were illiterate. Almost an equal percentage of parents approximately 26% reported that they can only write their names and failed to recall how far or till which class they had exactly studied in formal school. Not a single mother was found who had studied after class X.

Problems faced by the slum children in achieving elementary education

Among various problems faced by the slum children of 6-14 years age group in achieving elementary education most significant are large family size, poor living condition, poor health, unfavourable home condition, and surrounding environment, migration, language problem, unstable occupation and economic condition, poor parental educational background and school environment. A large family size implies higher dependency ratio. In a family consisting of father, mother and three or four children of school going age where father is the only earning member, working in an unorganized sector with poor and unstable income and where all other family members are economically dependent on him then meeting the bare basic necessities becomes quite a tough job. In such situation the chance of providing quality education to their children or even helping them to continue their studies gets affected. The higher the birth order, the lower is the percentage of children not being enrolled or dropped out as also reflected in the study conducted by Debi (2001).

Majority of the families (98.75%) were found to occupy small single dark, damp, room without proper ventilation provision which serves them for multi-purpose activities i.e. living, dining, sleeping, storing, bathing, washing, cleaning, cooking etc. Bunk system is often used to accommodate all family members and their varied activities. A peaceful environment for concentrating and studying at home is almost missing. The entire surrounding environment was found to be dirty, filthy, unhygienic and susceptible to various diseases like malaria, jaundice, dysentery, tuberculosis, asthma, respiratory infection and so on.

Each category of houses usually had a tap connected with Kolkata corporation water supply on ground floor, mainly under the staircase in case of pucca building or in a centrally located common place in case of clustered rooms which all the inhabitants of that premises uses for washing, cleaning, bathing and for all other purposes. Since corporation water is not supplied throughout the day but only for a fixed time it is a routine practice for the residents to stand in long queue and wait for their chance to use or collect tap water. Regularly it becomes the most noisiest part of the building/premises during the water supply. Usually most household have a tendency to collect drinking water from nearby tube well. Everyday collecting water or standing in long queue are usually done by the children or especially by the female members of the family.

Living condition

Picture 1: No separate kitchen so cooking is done at the entrance.

Picture 2 : A family consisting of seven members, five children, two women no adult male member. Two of the children are physically challanged.

Picture 3 and 4 depicting small room without any window where bunk like arrangement has been made to accommodate all family members and their belonging - bedding, clothes, utensils buckets, drums, cooking ingredients and whatever else they posses. In these small rooms on an average six people resides. Different activities are carried on simultaneously in the room like chatting, cooking, listening to music, watching television, cutting vegetables, grinding spices and so on. Such condition is not at all favourable for studying at home.

Most of the children were found to be under nourished and suffered from various diseases due to malnutrition and because of parental unawareness regarding health and hygiene and importance of vaccination. It was found that polio, anaemia, low pressure, tuberculosis, skin disease, lung infection and various other diseases due to deficiency of different vitamins and minerals are very common among children and even adults in slums.

Most of the adult male members are addicted to alchohol or drug or gambling thus spending most of the money from whatever little they earn thus depriving the basic necessities of other family members. Drugs and alchohol are consumed openly. Under the feats of alchohol, quarrelling using abusive and slang language, beating wife and children is a common daily affair in almost every household. Children very naturally and spontaneously get accustomed with, learn and start using such language and develop a violent and hostile attitude towards others which are often reflected in their behavior with their siblings, playmates or classmates. Under any pre-text be it any festival, marriage or any other social ceremony, football or cricket match or any cultural programme organized by the local club it was found that a very common practice in these slum is that people hire a stereo box and install it on footpath or even on road side and almost throughout the day popular film songs are played at quite a high volume and once installed it goes on for days at a stretch. Children and youths usually found to gather around these boxes and idly spending time chatting, singing, dancing, teasing passer-by. It is a sort of community entertainment programme. This is a typical slum culture that was observed during the survey. Thus, in such noisy and disturbed surrounding at home and outside even if a child wish to study it becomes almost impossible for him/her to concentrate and study.

Specially inter-state migrating families have a general tendency to visit their native place at regular interval along with their family for months or days at a stretch to attend different social ceremonies, festivals or during harvest season which in turn not only hampers their children's education but also their attendance level in school drops down.

In most cases the mother tongue of the migrated children is totally different from the medium of instruction followed in neighbouring schools where they are being admitted after migration because either of unavailability of such schools nearby or because of parental unawareness. These children faces problem in understanding what is being taught in school. However they cannot express these problems because the language spoken at home is different from the medium of instruction followed in school. This in turn affects their performance in school and they gradually losses their interest in studies and becomes irregular in attending school and finally gets dropped out. Slum children very often develops a unique language which is a mixture of different languages like Bengali, Hindi, Urdu, other language and even English (few words or phrases mostly with incorrect pronunciation) . The researcher like to cite here two examples as revealed by a school teacher during the survey while discussing on the issue of language problem of the children — Machli panitey thakey, Christmas k time hamra cake khaey.

Of the total number of children of 6-14 years age group it was found that a little more than 50% were not going to any school either because they were never enrolled or because they have discontinued their studies and dropped out and 48.56% children were attending school or continuing their studies.

A large number of children residing in slums are first generation learners and even in those cases where parents are just literate the children hardly gets any help from parents regarding studies at home. There is also a firm belief among slum dwellers that children cannot learn from school alone. They need additional support and the best option available is that of private tutor. This is again an economic burden on parents. Moreover the private tuition that they avail is of much inferior quality and as a result it hardly makes an improvement in their achievement level. Pratichi Trust (2002) also mentioned that private tuition seems to become unavoidable necessity for parents. Findings of this study also reveal that majority (81.47%) children had private tutor. It was found that though fathers level of educational attainment does not affect his children's educational status (p=0.066) but on the other hand mothers level of educational attainment does affect her children's educational status (p=0.029). According to Srivastava (1997) and Montgomery et al (1999) education of mother has a significant influence on school enrolment of children. Both fathers' and mothers' education have a positive and statistically significant effect on school enrolment decisions (Duraisamy,P. 2001).

To check if occupation of the head of the family (H.O.F.) influences children's education chi-square test was used and obtained chi-sq value (31.550) was found to be highly significant (p=0.000) which means occupation of H.O.F. does affect their child's educational status. Among all children who were drop-out, non-enrolled or irregular in attending school approximately 10% were engaged in any economic activities to earn a living to support the family. Girl children mostly participated in non-remunerative but time consuming activities which in turn affect their education. This finding is similar to the findings of Hiraway, 2002. Weiner (1991) argues that a large proportion of children join the workforce at an early age, thereby losing any chance of receiving education. The findings of the present study however is different from this as it shows that children not attending school does not mean that they are engaged directly in any economic activities to earn a living or to support its family.

As per Tendulkar Committee report, India's poverty rate is estimated at 37.2% of the total population. Further, to check if economic condition of the family has any impact on children's education gender wise chi-square value was calculated. It was found that at primary stage of education though economic condition of the family does affect girls education (p=0.004) it however does not affect boys education (p=0.179). In case of financial crisis in family more girls are found to drop-out than boys, similar to the findings of Banerjee, S. (2003). Earning of children of 6-14 years age group who were engaged in some sort of economic activities mostly ranged between Rs. 250 to Rs. 300 per month. Children were found to be engaged in elementary activities like folding *forma*, working at tea stall and road side eateries, stitching, working as apprenticeship etc.

Of the 18 schools, three types of schools – corporation, government aided and private and three types of instructional medium viz Bengali, Urdu and Hindi were taken for the study. In Pratichi Report (2002), a general complaint made by teachers of primary schools was that the infrastructure itself is the biggest hindrance to teaching-learning. The researcher in her study also found that similar problem exists in these schools in urban areas also. Near about 20% schools were run by single teacher while about 55% schools had two teachers. Average number of teachers in schools surveyed was found to be 2.44which is equal almost similar to2.55 as observed in Pratichi Report 2002. Hardly, few schools were identified where there were sufficient numbers of teachers to fulfill the requirement of one teacher per class or section. Thus, it becomes unmanageable for the teacher to control the class and carry on with the teaching-learning activities smoothly. Students' attendance falls as they find the classes uninteresting. Guardians hesitate to admit their wards to such schools fearing that classes will not be held properly thus enrolment strength falls drastically. Under such situation authorities refuses to fill the vacant posts because of poor roll strength of the school. An equal percentage of schools (37.5% each) were found to have single room or double room where all four classes were accommodated. Though it was found that in almost all schools bench, table, black-board and teaching aids were available but still the overall environment of none of the schools was found to be appreciable. Most of the schools had a dull, gloomy look. Thus, the very essence of joyful learning was absolutely missing in these schools. Nambissan (2001) stated that in the large number of cases, the school environment was found to be not learner friendly for children from the under-privileged group.

Chi-square test reveals that the number of teachers (p=0.000), number of class-room (p=0.000), type of school (p=0.000) and medium of instruction (p=0.000) all have significant impact on students attendance. Apart from two schools no other schools had any play ground. Thus, one of the basic objectives of education i.e. all round development of the child can never be provided in such schools. Kaul, R. (2001) stated that schools in slums in particular lacked play space which impeded the physical, social, emotional growth of children. Most of the teacher confessed that they do not use teaching aids regularly while teaching in class. Parents prefer to admit their children mostly to those schools which provide food – be it corporation or NGO run. Some parents who were slightly educated on the other hand opined that quality education is not provided in corporation schools and so they prefer private schools. Few cases were found where parents admitted specially their sons to private English medium schools- not the so called renowned ones but those that have cropped up like mushrooms in large numbers in almost each and every locality at the initial stage then after sometime either fails to bear the expenses and other requirements of such schools and forced their ward to discontinue their studies or the child himself fails to cope up and keep pace with the school and discontinued their studies and gets drop-out.

In comparison to the amount of willingness and concern shown by most of the parents during the survey to at least provide primary schooling if not more to their children (irrespective of gender) was however not reflected in the actual attendance as per school record. It was also found that percentage of attendance was better in private schools due to relatively stricter attendance rules and regulations followed by particularly those corporation schools which provide mid-day meal. During the survey it was found that only 25% corporation schools provided mid-day meal. Other corporation schools were not providing mid-day meals because of some problem with the concerned authorities. Some researches and educationist opined that mid-day meals given on regular basis have provided valuable input in enrolment and retention (Probe Report ,1999; Dreze and Goyal , 2003) .

Regarding teachers opinion altogether 42 teachers including head teachers of 18 schools taken for study were interviewed. Major reasons identified as cause for drop-out and irregular attendance were economic, domestic activities, migration, lack of suitable home environment and health related problems.

From the discussion with the teacher and head teacher it was also found that because of Sarva Sikshya Abhiyan schools are getting financial assistance under various heads but these funds were mostly not properly utilized because of lack of planning and genuine initiative at all level leading to utter wastage of resources. Thus, mere allocation of funds is not enough. Emphasis has to be given on planning and proper utilization of resources within stipulated time period.

Chief common causes for non-enrolment, drop-out and irregular attendance for both boys and girls were found to be poverty followed by health related problems and migration. According to the 11th 5 Year Plan (2007-12), India has the largest number of children of the world who are malnourished. India ranks 67 on Global Hunger Index among 88 nations (The International Food Policy Research Institute 2010). According to Mehrotra, S. and Mander, H. (2009), even if all members of a household eat two meals per day there may be serious problem with quality of the meal, as reflected in the calorie intake and protein intake per meal. According to Pratichi Health Report (2005) sickness is an important cause for poor attendance in school. Almost thirty five years back also similar type of problem i.e. poverty and poor background of the child stood as the main reason for drop-out and failure to enter school (Aikara. J. 1979). Beside these, physical disability (inborn or accidental) also affects education. More than 95% primary and upper primary schools in India do not have any special facilities for the education of the physically challenged children (Zaida, 2008). Migration is often found to be the cause behind non-enrolment and drop-out (Ramchandran, V. 2006). Other important cause for drop-out for boys was found to be lack of interest in studies while among girls it was found to be domestication and household work. Domestic work and sibling care were the chief causes of girls dropping out (Nayar, U et al. 1992).

Though it took about sixty three years after independence of India to make elementary education a fundamental right but on the other hand it is absolutely true that mere passing of an act will not change the existing scenario of elementary education overnight. What is required more is micro level need based planning, proper implementation of plans under strict monitoring system, evaluating its progress at regular interval and on its basis modifying and updating the strategies if required so that ultimately the very purpose for which it has been made is fulfilled as early as possible. Genuine initiative has to be taken at all levels to overcome the problems and to provide quality elementary education to all children of 6-14 years age group.

Conclusion

The basic problem from which all other problems crop up in these slums is acute poverty. Therefore, more and more income generation and poverty alleviation programmes should be properly implemented under strict monitoring system so that the economic condition of these vulnerable sections of the society could be improved by providing loans for self-employment. More job opportunities to be provided for wage earners. Their working hours and minimum wage have to be fixed in such a manner so that on one hand they will not be exploited and on the other hand they can meet their bare minimum necessities and lead a healthy life. To meet the problem of acute shortage of urban housing, lack of adequate infra-structure and basic services, attempt should be made by the Govt. to provide more shelter/housing to these people at low affordable prices so that they can have a decent living condition. To combat with the health and hygiene related problem children in school should be trained about the basic principles of health, hygiene and cleanliness so that they can in turn at least to some extent make other family members aware of these basic facts. Another important thing is that regular health check-up for the children should be conducted and various pathological tests, x-rays, medicine at subsidized rate or absolutely free of cost should be provided. Parents should be aware about the causes, prevention and treatment of common diseases. The problem of irregular attendance due to migration can be taken care of if the teachers and school authorities make the parents aware about the importance of sending children regularly to schools and to encourage them to visit their native place during vacations/holidays only so that their children's studies at school will remain unhampered. To overcome the problems related to acute shortage of teacher can be overcome through recruitment of new teachers as early as possible to fill the vacant posts. Attempt could be made to link primary schools area or locality and medium wise and faculty exchange programme can be undertaken within these groups of schools. Thus, sharing of knowledge, experience and expertise can effectively be used for removing boredom and can help to motivate both the teacher and the student in their respective work/activities. Instead of neglecting and underestimating the innate potentialities of the under-privileged children, teacher must develop a positive attitude while teaching as well as while dealing with them in day to day affairs with dignity as this will in turn help these children to develop confidence and further motivate them to overcome various problems of life in a more challenging manner. Dependency of children on private tuition can be reduced if the teachers prepare the lessons entirely within the school hours. No home work other than practice work is to be given. Improvement of physical facilities in terms of separate class-rooms for each class, separate toilet for girls, provision for good library should be made. Schools should be made more attractive and joyful learning environment should be provided. Computer assisted learning programme can be undertaken. This will not only attract the interest of the students but they will also enjoy learning through it.

Bibliography

Aikara, J.(1979). Educating out of school children: A survey of Dharavi Slum. In Buch,M.B. (ed) : Third Survey of Research in Education, 1978-83, NCERT, New Delhi, p.106.

Banerjee, S.(2003). 'Education for the under priviledged : Results of a field survey' . Paper presented at a workshop on urban informal sector, slums and urban poverty. Centre for Urban Economic Studies, Kolkata, 18 January.

Debi, S. (2001). ' Inequality of Access to Elementary Education in Orissa : An Inter and Intra – Spatial Analysis'. In A. Vaidyanathan and P.R. Gopinathan Nair (eds), Elementary Education in Rural India: A grassroot view, Vol-II, pp. 518-63, New Delhi : Sage.

Dreze, J. and Goyal, A. (2003). 'Future of mid-day meals,' Economic and political weekly, 1 November, pp. 4673-83.

Duraisamy, P. (2001) "Effectiveness of incentives on school enrolment and attainment," Journal of Educational Planning and Administration. Vol. XV, No. 2, pp. 155-177, NIEPA, New Delhi.

Government of India, National Sample Survey 61st Round (2004-05).

Government of India (2005). Slum Population, New Delhi.

Government of India (2011). Planning Commission, Tendulkar Committee Report on poverty estimation, New Delhi.

Government of India (2012). Census of India 2011, New Delhi.

Hiraway, I. (2002). ' Understanding children's work in India' : an analysis based on time use data, in Nira Ramchandran and Lionel Massum (eds), Coming to grips with rural child work, New Delhi, Institute for Human Development, p. 81.

Kaul, R. (2001). 'Accessing primary education going beyond the class room'. Economic and Political weekly, 13 January, pp. 155-163.

Montgomery, M. et al (1999). The quality – quality transition in Asia. Working paper No. 123, Population Council, New York.

Nambissan, G. (2001). 'Social diversity and regional disparities in schooling : a study of rural Rajasthan', in A. Vaidyanathan and P.R. Gopinathan Nair (eds), Elementary education in rural India, a grassroot view, New Delhi : Sage.

Nayar, U.; Nautiyal, K.C.; Jogelkar, S.; Jain, M.; Singh, N. and Bhattacharya, S. (1992). 'A study of factors of continuance and discontinuance of girls in elementary schooling in Sharma A.K. and others (ed) : Fifth survey of educational research, 1988-92, Vol-1, NCERT, New Delhi.

Pratichi Trust (2002). The delivery of primary education : a study in West-Bengal, New Delhi.

Pratichi Trust (2005). 'The Pratichi health report', No.1, TLM books, Indigo Publishing Private Limited, Delhi.

PROBE (1999). The Probe team in association with centre for development economics, Public report on basic education in India, New Delhi: Oxford University Press

Ramchandran, V. (2006). 'Urban schooling mired in apathy and prejudice', Economic and political weekly, 4 February, pp. 383-384.

Srivastava, R.S. (1997). Access to basic education in Uttar Pradesh. Results from a household survey (mimeo. University of Allahabad.

UN- Habitat (2010). Retrived from www.unhabitat org/pmss/getpage.asp?page= bookview&book=3105 dated 16.06.13.

UNDP (2003). Human Development Report, Millennium Development Goals : A contract among nations to end human poverty, Oxford University Press, New Delhi.

UNESCO (1996). Learning: the treasure within: Report to UNESCO of the International Commission on Education for the twenty first century, Oxford University Press.

UNESCO (2007). EFA Global monitoring report, 2008, Oxford University Press, p. 392-393.

Weiner, M. (1991). The child and the state in India : Child labour and educational policy in comparative perspective, Princeton University Press, Princeton.

World Bank (1994). World Development Report – Infrastructure for development, Oxford University Press.

Zaida, S.M.I.A. (2008). ' Facilities in primary and upper primary schools in India – an analysis of DISE data of selected major states', in Journal of Educational Planning and Administration, Vol. xxii, No. 1 NIEPA, New Delhi, January. pp. 59-81.

Epistemological and Pedagogical Implications of Constructivism: A Contemporary Contemplation

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Abstract

Epistemological and pedagogical implications of Constructivism in development of pupils and learning have their roots in Piagetian Cognitive Development Theory, Jerome Bruner's Theory of Cognitive Growth, A. Bandura's Social Cognitive Theory and Socio-cultural Theory of Lev Vygotsky. Even Howard Gardner's Multiple Intelligences has a place in characterizing a constructivist learner. In addition, Socratic Dialogue, Francis Baconian Prudent Question and John Dewey's Method of Inquiry reflect the basic features of the learning strategies of Constructivism, such as co-operation, collaboration and reflection. With this backdrop, the paper attempts to analytically elaborate the teacher's role, the process of learning and the classroom environment from constructivist point of view and reflects its position in the contemporary system of education.

Key Words: Constructivism, constructivist teacher, constructivist teaching, constructivist classroom

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Constructivism has not a single and unified perspective but rather has different perspectives from which one may trace its epistemological and pedagogical implications. From Endogenous Constructivist point of view mind is a repository of beliefs, ideals, values and expectations. Thoughts and feelings are formed in it. Knowledge develops through the cognitive activity of abstractions and follows a generally predictable sequence as Jean Piaget's (1970) Cognitive Development Theory. As per Exogenous Constructivism, acquisition of knowledge represents reconstruction of structures influenced by the external world, such as experiences, teaching methods and social interactions. Contemporary Information Processing Theories reflect this notion in concepts like productions and memory networks. Dialectical Constructivism views knowledge is the outcomes of mental contradictions that results from interactions between

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[λ] Ph.D. Scholar, Department of Education, Institute of Education, Visva-Bharati, Santiniketan – 731235, West Bengal, e-mail:mounibs10@gmail.com persons and their environments. Jerome Bruner's Theory of Cognitive Growth (1964 & 1985), Lev Vygotsky's (1978) Socio-Cultural Theory and A. Bandura's (1986 & 2001) Social Cognitive Theory are reflective of Dialectical Constructivism.

From the backdrop of the endogenous, exogenous and dialectical perspectives it may be observed that Constructivism is not a theory but rather an epistemology, or a philosophical explanation about the nature of learning. Simpson (2002) opined the same. As a broad movement of teaching philosophy, it is equally acknowledged as a philosophical position as well as an educational strategy (Muijs & Reynolds, 2005: 61). Its philosophical explanation in learning and development of pupils has its roots in the basic ideas of 'maturation', 'actions', and 'social transmission' as contained in Piaget's Cognitive Development Theory (Cognitive Constructivism) and of 'social interactions' and 'self-regulations' in Vygotsky's Socio-Cultural Theory (Social constructivism). Its methods of learning characterized by co-operation, collaboration and reflection are founded in the Socratic Dialogue, Francis Baconian Prudent Question, and John Dewey's Method of Inquiry. Even Howard Gardner's Multiple Intelligences has a place in characterizing a constructivist learner. It suggests that the philosophical perspectives of Constructivism are as old as its pedagogical points of view.

Piaget's Cognitive Development Theory and Vygotsky's Socio-Cultural Theory somehow could not translate their respective Cognitive and Social constructivist perspectives into educational practices during that point of time. But compared to Piaget's concept of developmental learning through 'maturation' and 'activity', the Vygotsky's view of social learning through 'interactions' and 'cooperation' strongly influenced the current constructivist philosophy of teaching and learning. In the contemporary knowledge society, Constructivism has been directed more towards perceiving education as a process of acquiring information, i.e. methods of learning through self-discovery and learning with understanding. Before explaining explicitly the pedagogical implications of Constructivism, let us look in to the basic pedagogical features grounded on its endogenous, exogenous and dialectical perspectives:

- Knowledge is subjective, contextual, inherently partial, relative and changeable; but not objective, without any context, complete, absolute and unchangeable
- Learners not only construct knowledge but also construct the ways of acquiring and applying knowledge, i.e. self-regulation. They reconstruct, restructure and reorganize knowledge by integrating their prior knowledge and personal experiences with the knowledge and experiences of significant others, such as teachers, more able students. Of course, it is developmentally (mostly genetically) through maturation (Piaget) and socially through social interactions (Vygotsky). Research shows that students who believe learning is under their control expend greater effort, rehearse more and use better learning strategies (Schunk, 2011:275).

- Teacher is not the source of right knowledge who transmits it to students rather s/he facilitates the environment where the students not only construct their own knowledge but also construct ways for acquiring and applying it.
- Learning is not a passive receptive process rather an active and interactive knowledge-creating, meaning-making and understanding-developing process required to solve meaningful problems.

Constructivism is a major rethinking about teaching process that is free from rote-memory and stressful learning, and is activity-oriented as well as learning-centric. It is thus imperative to analyze the pedagogical implications of Constructivism: the teacher, the teaching and the classroom which have direct bearing on the learning.

1. Who is a constructivist teacher?

A constructivist teacher (Brooks & Brooks, 1999) is not a depository of 'all knowledge' nor does s/he try to get pupils to give the 'right knowledge', or 'correct answer'. S/he rather, tries to get pupils to give their 'point of view and understandings' so that s/he can understand their learning in turn. Instead of presenting information to pupils, s/he prepares learning environments where they can discover and construct knowledge.

A constructivist teacher is also reactive, adaptive and a task provider (Muijs & Reynolds, 2005:85). S/he reacts to learners' responses and ideas and thereby allowing a lesson to go in a different direction from that originally planned. In the process, a teacher explores a good idea or questions which a learner gives. A teacher is too adaptive who takes into account the pupils' academic ability and learning style. S/he acknowledges individual differences in learning and believes that no two pupils construct precisely the same meaning even when presented with identical objects or events, and thereby brings variations in his/her teaching. Teacher is not a task or project designer for pupils; s/he rather provides them opportunities and gives choices and options (pupils' say) in what tasks, projects or assignments they are doing. S/he works with them to design task or project that will facilitate their learning.

A constructivist teacher is not a sage on the stage but a facilitator who carries out a dialogue with learners but does not deliver a monologue to them, asks them but not does not tell, provides guidelines to their questions but does not answer, assists them in solving their problems but does not solve, creates learning environment for them but does not control it, shares power (empowerment through learning) with them but not show power over them and supports to arrive conclusions but not to draw conclusions for them. S/he is essentially a creator of pupils' stress-free and joyful learning.

2. What is the nature of constructivist teaching?

Constructivist teaching is learning-centric where both pupil and teacher learn through their past knowledge and previous experiences, reflection, meta-cognition and resolving cognitive conflicts (Beyer, 1985). Pupils learn through construction of knowledge. Teacher learns being reactive to pupils' responses and ideas. Learning is thus process oriented enabling learners **'how to learn'** but not **'what to learn'**. The instruction, for example, to **'offer your seat who is in need'** written above certain seats of some public transports is a process-oriented learning where learners do what they realize appropriate under specific circumstances. On the contrary, the instruction not to occupy 'reserved seats for senior citizens, handicapped, or women' is a product-oriented learning where pupils are trained to do only the right thing as directly instructed.

As per Constructivism, knowledge is constructed individually through activity (Piaget), but it is best constructed collectively through social transmission (Piaget) and social interactions with peers, teachers, parents and others (Vygotsky). It emphasizes that what a person is able to learn with the help of someone more knowledgeable or skilled than him/herself results in enriched experiences coupled with higher mental functions (convergent, divergent and evaluative thinking) than what s/he is able to learn alone Learning thus yields (Schunk, 2011:245) not merely ***actual development*** (problem solving by the pupils independently) but also ***potential development*** (problem solving under guidance or in collaboration with more capable skilled persons) among learners. During apprenticeship learning of student-teachers how to develop a lesson plan and delivering it in a class room under the guidance of a teacher educator just like a young person learning how to weave a garment under a skilled adult weaver are two cases of potential development. The teacher educator initially may spend 90% of the total time with student teacher which may go down to 60% after a successful preparation and delivery of a lesson plan, it may further reduces to even 40% or so after preparation and delivery of, say, five plans. It thus acknowledges that ***individual capacity*** through the learners' efforts is integrated with ***collective capacity*** through mentors and learning does not occur in isolation rather in social-cultural-historical context say, pupil-teacher interactions. It further explains that socially or culturally mediated interactions internalized by the learners produce cognitive change in them. The learners do not acquire knowledge passively from these interactions, nor do they learn necessarily an automatic or accurate reflection of events. Rather, they bring their own understanding to social interactions and construct meaning by integrating those understandings. Precisely, transformation but not just transmission of knowledge takes place in pupils through constructivist teaching-learning process.

Teaching is multidimensional in nature involving community, nation, or world related real-problems but not artificial ones as contained in the textbooks; the learners' mental, physical, social, moral and emotional involvement in the process of teaching; the instructional methods such as class discussions, peer tutoring, cooperative learning, collaborative learning, apprenticeships, scaffolding, reciprocal teaching, reflection and articulation; the classroom structure with different small groups of students working in same task at the same time or different tasks at different times; the sources of knowledge and experience like books, more capable peers, teachers, learned people in the community and web pages; as well as the continuous and comprehensive assessment of learners in the form of classroom participation, assignment, seminar presentation, unit tests containing questions of deeper conceptual understanding, instant classroom verbal or written testing, review work focusing on what the learners learn, why a particular knowledge is useful in the society and demonstration and application of acquired skills in real life situations.

From constructivist perspective, learning is thus a cheerful, joyful, stress-free and transferable but not tearful, fearful, anxiety-prone and non-transferable activity. It becomes easy and meaningful with understanding that can subsequently lead to a constructive, productive and contributive development of the individuals and society.

Incorporation of constructivist teaching into the regular instruction by the teacher is a challenging task. Its use and effectiveness all depends on commitment of the regular teachers and teacher educators, dynamic school culture, learners' will power, parental support and more importantly on teacher preparation programs to which the teacher educators are responsible. Philosophy of working together with team efforts and pedagogy of learning together with content mastery and joyful learning are thus basic tenets of constructivist teaching.

3. What is a constructivist classroom?

Constructivism redefines the role of students and the teachers and their interrelationships by creating a nurturing, but not a competitive classroom environment. It tends to suggest that a constructivist classroom is well distinguished from a traditional classroom (Panitz & Panitz, 2012; Colorado, 2011; and Wooley, Switzer, Foster, Landes & Robertson, 1990) as one may observe from the following:

- Traditional classroom is teacher-directed where information is disseminated through didactic approach. But constructivist classroom is learner-centered where students construct knowledge through critical thinking, manipulations, primary resources and hands-on activities with teacher as facilitator.
- Teacher talks to students where student is expected to listen and absorb knowledge in a traditional classroom. But in constructivist classroom teacher-student dialogue takes place through conferencing, questioning and wondering.
- In traditional classroom, teacher's performance is central. Teacher presents what are important facts. Students' performance is central in constructivist classroom. Students sort out what is important.
- In traditional classroom, all students learn the same thing at the same time on demand. Approach is one-size-fits-all. Here learning is product-based. In constructivist classroom, learners create meaning, construct knowledge, explore new ideas and generate hypotheses through interaction and experiences. Learning is here process-based.
- Students work independently in traditional classroom. Students work collaboratively in groups and with partners in constructivist classroom. They too work independently to contribute the team work.

- In traditional classroom, students reproduce material presented by the teacher or the textbook and are thus passive. In constructivist classroom, students become actively involved in defining questions in their own language and works out answers together.
- Traditional classroom is filled with individual learners. Communities of learners are present in constructivist class.
- Students answer to teacher's questions in traditional classroom which is dominated with empowered teacher. Students ask questions in the constructivist classroom to all including the teacher and classmates present in the classroom. Learner is thus empowered in the classroom.
- Traditional teachers make all the decisions in the classroom with their sheer responsibility. Decisions are made in collaboration of students and teacher with shared responsibility in constructivist class.
- Traditional learning sources are mostly worksheets, workbooks and basal readers. Constructivist learning sources are multiple with self-searching mode through reference books, journals, workshops, real-world situations and e-sources.
- The goal is to check and correct answers in traditional classroom. Thinking and support of thinking are the goals in constructivist classroom.
- Coverage of course contents is focused in traditional classes and classes are thus content centered. Mastery over the course contents is focused. Constructivist classes are thus learning centered.
- In traditional classroom, assessments are tests which are separated from learning task and teacher is an evaluator. In constructivist classroom, assessments are made through observations, participation in workshops, involvement in and completion of daily works, and carrying out different portfolios at different times where student and teacher are evaluators.
- Traditional classroom environment is authoritarian, directive, individualistic, competitive and quiet. Constructivist classroom environment is cooperative, involvement, hands-on-experiences, activity-based, interactive, supportive and nurturing.

4. Contemporary reflection of constructivist education

Literature reveals that constructivist thinking is not a thing of the present rather it even prevailed in the remote part of the human history. More than 25,000 years before Socrates said that 'Education is the kindling of flame, not the filling of vessel'. For W. B. Yeats, 'Education is not the filling of a pail, but the lightning of a fire'. But, Driver and Easley (1978) article entitled 'Pupils and paradigms: A review of literature related to concept development in adolescent science students' appeared in *Studies in Science Education* is taken as Constructivist Movement for improvement of teaching-learning processes (Sharma, 2006). In recent past and even today constructivist thinking occupies a prime position as one may observe from a few observations stated below:

- Howard Gardner's (1993) Theory of Multiple Intelligences (visual/spatial, verbal/linguistic, logical/mathematical, bodily/kinesthetic, musical/rhythmic, interpersonal, and intrapersonal) has a place in characterizing a constructivist learner.
- Maria Montessori's Play-way Method, learning in nature's lab in Tagore's Patha-Bhavana at Santiniketan and Gandhi's Basic Education are reflections of constructivist learning.
- The four pillars of education, i.e. 'learning to know, learning to do, learning to live together and learning to be' envisioned by Delors (1996) in its report titled *'Learning: The Treasure Within'* are primarily based on the principles of Constructivism.
- Yash Pal's (1993) *Learning without Burden* emphasizes implications of Constructivism for instruction and NCERT's (2005) *National Curriculum Framework 2005* is the reflection of Constructivism in India.
- Current theory and practices of Continuous and Comprehensive Evaluation at school, college, and university education levels suggested by different Commissions, Committees, and Policy Documents in India conform to constructivist principles of assessment.

The relevance of Constructivism in the contemporary system of education is well commented by The Hindu (2011) in its editorial page: 'Despite increasing awareness through Yash Pal's (1993) *Learning without Burden* and NCERT's (2005) *National Curriculum Framework 2005* that learning is not mere information accumulation and that teaching ought to be recast into a facilitation of children's discovery of their own potential and understanding, the emphasis in practice continues to be on textbooks and examinations. Conceptual understanding is not encouraged anywhere near enough, and sport, art, debate and cultural activity are kept at the distant periphery'.

5. Epilogue

The epistemological and pedagogical implications of Constructivism discussed in the preceding paragraphs tend to suggest that a constructivist teacher with constructivist teaching method can lead pupils from 'memorization of facts to understanding, textbook-based learning to hands-on learning, content of abstractions to content of real world problem, lecture style instruction to interactive style of instruction, teacher-imposed information to pupil's self-discovery information, product-oriented learning to process-oriented learning, teacher-assessment forms to teacher-peer-assessment forms, summative style evaluation to comprehensive and formative style evaluation, instruction-burden self to transformation of self and life to living in a constructivist classroom'.

Understanding the said implications can make it easier to perceive concepts of different things or ideas from constructivist viewpoints. For a constructivist, for instance, the concept of food differ from one Indian community to another: for a Bengali it may be rice, dal, fish curry and alu-posto; for an Odiya it may be rice and dalma; and for a Tamil food may include rice, cud, sambar and chatni with charupani. Similarly milk may be food for any infant, and roti, rice and vegetables for any adult. Counting seeds of a papaya and its weight in Mathematics, and creating environment with flower plants, vegetable plants and herbal medicinal plants in Biology are some reflections of constructivist thoughts in educational practices. In literature, explaining meaning of words in a sentence by teacher and then asking children to arrange different sentences in logical order is also reflective of constructivist learning. For a constructivist thus learning is contextual, internalized with experiences, activity-based, involvement-oriented, living and joyous.

If educational institutions intend going beyond the laboratory of academics and aim at becoming a laboratory of creating pedagogy of learning together with content mastery and joyful learning, developing empathy, understanding and compassion, and transforming a 'well formed mind' than a 'well filled-in mind', then constructivist approach can be one of the most relevant and practical approaches to both theories of and practices in education.

References

Bandura, A. 1986. *Social Foundations of Thought and Action: A Social Cognitive Theory.* Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. 2001. Social Cognitive Theory: An Agentic Perspective. *Annual Review of Psychology, 522,* 1-26.

Beyer, B. K. 1985. Critical Thinking: What is it? *Social Education*, 49, 270-276.

Brooks, M. G and Brooks, J. G 1999. The Courage to be Constructivist. *Educational Leadership, 57(3)*, 18-24.

Bruner, J. S. 1964. The Course of Cognitive Growth. *American Psychologist, 19*, 1-15.

Bruner, J. S. 1985. Models of the Learner. *Educational Researcher, 14 (6)*, 5-8.

Colorado, D. 2011. Retrieved: July 10, 2012 from *Privacy Policy design*: Gretchen Garrison Design | website: Six Degrees Studio.

Gardner, H. 1993. *Multiple Intelligences: The Theory in Practice.* New York: Basic Books.

Muijs, D. & Reynolds, D. 2005. *Effective Teaching: Evidence and Practice.* London: Sage Publications.

Panitz, T. & Panitz, P. 2012. *Use of Collaborative Learning in Higher Education.* Retrieved: October 07, 2012 from http://home.capecod.net.

Piaget, J. 1970. *Science of Education and the Psychology of the Child.* New York: Orion Press.

Simpson, T. L. 2002. Dare I Oppose Constructivist Theory? *The Educational Forum, 66*, 347-354.

Schunk, D. H. 2011. Learning Theories: An Educational Perspective. New Delhi: Pearson.

Sharma, S. 2006. Constructivist Approaches to Teaching and Learning. New Delhi: NCERT.

The Hindu. 2011. Quality Education still Elusive. December16, Kolkata.

Vygotsky, L. 1978. Mind in Society: The Development of Higher Psychological processes. Cambridge,MA: Harvard University Press.

Wooley, S., Switzer, T., Foster, G., Landes, N. and Robertson, W. 1990. BSCS Cooperative learning and Science Program. *Cooperative Learning, 11(3).*

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From Shanty Town to School: A Silent Movement in Post-Reform India

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Manimala Roy[p]

Abstract

An obvious outcome of the 1991 economic reforms was a perceptible rise in the income level of the unorganized workers in the cities spurting their ambition for education for their children. For them education was a route to better, white-collar jobs, an improved standard of life and new social respectability. This realization unleashed a new movement in the urban slums with the better-offs among migrant workers sending their children to school. Aware that a good education would enable the children to grab the jobs created by the opening up of new sectors like telecom, restaurant chains, retail outlets, the workers tended to send them to school. The consequences of the march to school from the city slums were indeed magical.

Keywords: Educational aspirations, Occupational aspirations, Migrant children, Slum literacy, Economic Reforms, MGD, SSA, .

Introduction

The economic reforms of 1991 constituted perhaps the most radical policy shift directed by the government in independent India. The sweeping liberalization programme marked a most serious departure from a controlled economy based on the predominance of the public sector. *The Economist* likened the momentous decision to the daring act of "unleashing the caged tiger".

How did the New Economic Policy influence education? There is no automatic link between the two, the Human Development Report cautions (HDR, 1996). Realizing the need for a trained and skilled workforce the government introduced Sarva Shiksha Abhiyan (SSA) in 2001-02 to provide free and compulsory quality education to all children in the 6-14 age of group. The budget allocation for education rose sharply from 7.68 per cent in the 10th Plan to 19.29 per cent in the 11th Plan (11th Five Year Plan Document). The budget allocation for education rose by 18 per cent for the year 2012-13. Out of '61,427 crore allocated for the education sector, 22 per cent would go to SSA and 29 per cent to Rashtriya Madhyamik Shiksha Abhiyan (RMSA). A Credit Guarantee Fund has been proposed to boost skill development for the young people (Retrieved from http://www.indiaeducationreview.com, 19/03/2012). Yet various statistics so far reveal poor implementation of policies in the field of education, particularly elementary education, even two decades after the onset of reforms.

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However, an interesting aspect of the impact of India's New Economic Policy on school education has so far gone almost unnoticed by the social scientists. For the first time the relatively better-offs among the marginalized in urban areas have begun to see education as a vehicle to ride on to new opportunities, a key to access better-paid jobs. This trend is quite strong in the capital city of Delhi. Those segments among the slum-dwellers which have risen above the grim struggle to meet the basic needs, now aspire to give their children better education – more than the ability to sign one's name and count the wages (http://www.chintan-india.org).

Unnoticed by any major survey or study, this significant social trend can be traced to the rise in wages for the skilled and semi-skilled workers in the years following economic liberalization of 1991. A comparison of per capita income between 1991 and 2010 shows a rising trend for Delhi (Table 1). As Delhi's per capita income is higher than the national average so is its minimum wage levels (www.paycheck.in). National floor-level minimum wage is '100 in 2010 raised from ' 80 in 2007, (It was '35 in 1996, '45 in 1999) whereas the minimum daily wage fixed in Delhi in 2010 is more than double the national average — ' 203 for unskilled, '225 for semi-skilled and '248 for skilled workers.

Table 1: Per capita Income for Delhi vis-à-vis India

Year	Per Capita Income (at constant 1980-81 prices) (')	
	Delhi	India
1991-92	5,972	2,213
1997-98	6,478	2,840
	Per Capita Income at current prices (')	
1999-2000	38,682	15,839
2000-2001	41,436	16,648
2005-2006	61,676	25,716

Source: Economic Survey 2007-08, Page A-13 & National Human Development Report (NHDR), 2001, page 146. Data compiled by the researcher.

After fulfilling the basic needs of life, people aspire for a better standard of life by giving education to children and using healthcare facilities. With a significant rise in wages even those without proper education have now ambition for their children. As a result there is pressure on schools to admit the first-generation literates (Right to Education Bill, No. LXV, 2008, GOI, as cited in Financial Express, Nov.1, 2008).

The marginalized, migrant communities living on the fringes of the cities are now willing to spend a significant part of their earning on the children's schooling. These people living either in slums or rural clusters within the city boundaries, themselves barely educated, often put their children in English-medium public schools (Deepalaya News, Vol. xvii, retrieved from www.deepalaya.org on 8/9/2011). Without any intervention by the state, major social, political or religious organizations, such communities have seen education as an investment in the future.

While reviewing the existing literature, it was observed that so far no significant studies were conducted to find out how economic reforms impacted education of slum children or poor migrants in Delhi. However, a few related studies focused only on the problems the slum children face in schooling (Aggarwal & Chugh, 2003, Tsujita, 2011). The problem of migrants' education in literatures abroad mostly deals with international migration. A recent research work in Thailand explored the Right to Education for the migrant children in that country (Petchot, 2011) but again with respect to international migration. Some work on population studies in China in 2000 discussed rural-urban migration and the problems faced by the migrant children in accessing education in the places of destination.

This study focuses on the educational aspirations of poor migrants living in the slums of Delhi in post-reforms India.

Objectives

- To find out the income status of Delhi's slum dwellers in post-reform period
- To observe the level of household consumption in Delhi vis-à-vis other states of India
- To find out the role of wage differential in migration of people from other states to Delhi
- To find out educational and occupational aspirations of slum children in Delhi
- To find out whether normal rule of economics applies to Delhi slums when rise in household income leads to demand for items of comfort, including education.

Table 2: Sample size

Categories of respondents	Migrant	Non- Migrant	Total
Parents	50	50	100
Students	50 (Class X) 50 (Class XII)	50 (Class X) 50 (Class XII)	200
Teachers (Including Head of the Institution)	100		100

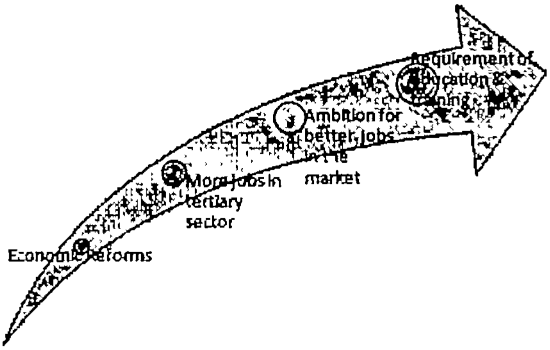
Tools

Interview schedules and questionnaires developed by the researcher have been used as tools.

Results and Discussions

Economic Reforms boosted the income levels of people, particularly in the capital city of Delhi

As observed by the earlier researchers (Tilak, 2009, Dreze and Kingdon, 2001) poverty acts as a disincentive for the disadvantaged people to send their children to school. On the other hand the HDR, 2009 had found that " in 13 out of 16 countries internal migrants had higher incomes than non-migrants. In Brazil and Panama, a series of studies controlling for education found income gains for indigenous groups who move. Studies across a range of countries suggest that internal migration has enabled many households to lift themselves out of poverty" (HDR, 2009, p.50-51).


Economic Reforms
More jobs in tertiary sector
Ambition for better jobs in the market
Requirement of education & training

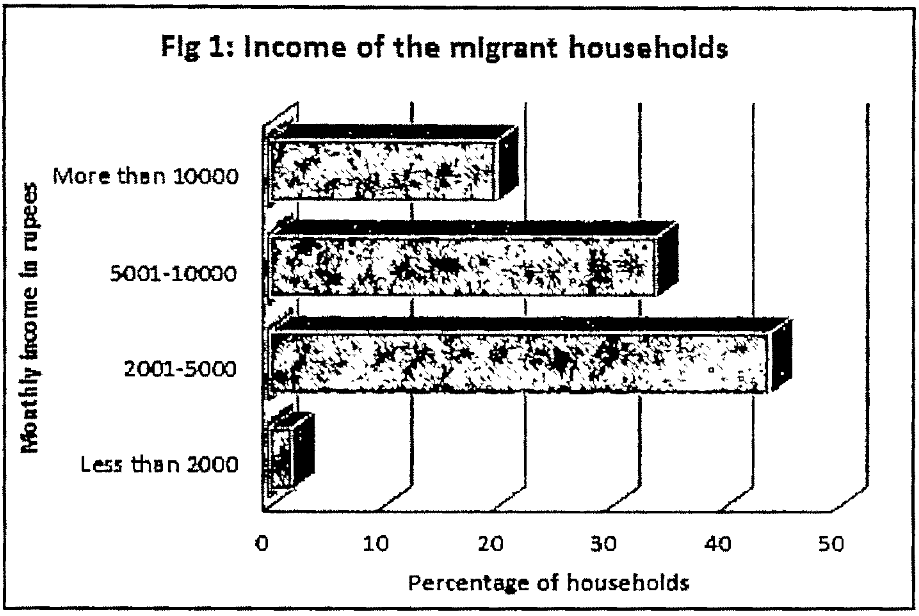
Economic reforms in India initiated in 1991 have changed the general living standards of the people in this country, particularly in the capital city of Delhi. It is interesting to note that Delhi became a state only about two decades back. Being predominantly urban (76.2 percent urban population), this state does not have the retarding factors of a rural sector influencing its growth. Its Net State Domestic Product (NSDP) growth (8.9 percent) was much better than the national average (7.1 percent) in the past decade. Its per capita NSDP grew at 5.7percent vis-à-vis India's 5.4 percent average in the same period.

A close examination of the statistics in the Table 1 points to a sharp rise over the past two decades in Delhi's per capita income which is much higher than the national average. Keeping in mind the nature of the target group, household income in the slums of Delhi was observed by the researcher and is presented below in Table 3 and Fig1.

Table 3: Income of the migrant households interviewed

Income level (' per month)	Percentage of households
Less than 2000	2
2001-5000	44
5001-10000	34
More than 10000	20

Source: Primary Data



Source: Primary Data

It was heartening to see that very few households earn less than '2000 p.m. In a recent article in the Time Magazine journalist Kurt Anderson observed that "the two decades beginning in 1991 witnessed the greatest rise in the living standards that the world has ever known"(Anderson, Kurt, Time Magazine, Annual issue, 2011). This global trend has also been observed by the present researcher in Delhi slums.

One possible reason may be that the economic reforms have created a range of diverse work opportunities for people. The number of jobs created in organized as well as unorganized sectors in the past two decades increased the number of workers significantly in the capital city.

Table 4: Increased work participation in post-reforms Delhi

Year	1991-92	2001-02	2007-08
Size of employment in Delhi (lakh)	29.80	45.45	57.07

Source: Economic Survey of Delhi 2008-2009, Ch 5: Employment-unemployment, p.69, 72

Delhi has seen a phenomenal growth in the employment generation in post-reforms period. The generation of employment was much more in private sector than in public sector. In fact the thrust on privatization and liberalization in the reforms policy of 1991 led to a fall in public sector employment at an annual rate of 0.52percent whereas it increased at an annual average rate of 0.59percent in the private sector in this period (Economic Survey, 2008-09, p.75). A large number of people are also engaged in unorganized sector or self-employed. In fact it is the unorganized sector which absorbs most poor migrants.

Table 5: Job creation in Delhi after reforms

Year	Employment (lakh)		
	Public sector	Private sector	Total
1999	6.26	2.22	8.48
2001	6.24	2.17	8.41
2006	6.05	2.21	8.26
2008	6.00	2.36	8.36

Source: Economic survey 2008-09, chart 5.3(Data compiled by the researcher).

The increase in number of workers in Delhi between 1991-92 and 2007-08 was primarily due to large scale inflow of migrants from the neighbouring states. A study by the Planning Commission in 1998 showed that 43 percent of the persons registered with Delhi Employment Exchange were from the neighbouring states (Economic Survey of Delhi, 2008-09, chapter 5, p.69). The following table shows the migration data for Delhi. States from where large numbers of people have migrated to Delhi have only been shown in the table.

Table 6: Migration data for Delhi

States of origin	Number of migrant population in Delhi		Percentage growth in one	Migration in 2011* decade
	1991	2001		
Uttar Pradesh	17,04,197	23,16,731	35.94	22,96,367
Bihar	2,67,567	7,37,867	175.77	7,25,565
Haryana	4,40,275	5,45,811	23.97	5,55,173
Uttaranchal	-	3,06,503	-	N.A.
Rajasthan	2,31,856	2,74,392	18.35	N.A.
Punjab	2,35,142	2,51,091	6.78	N.A.
West Bengal	78,811	1,69,165	114.65	N.A.
Jharkhand	-	1,13,675	-	N.A.
Total number of migrants in Delhi	33,33,161	53,18,362	59.56	-
Total population of Delhi	94,20,644	1,38,50,507	47.02	1,67,53,235

Source: Census data for Delhi. Data compiled and analyzed by the researcher

[* Data for other states for 2011 were not available at the time of submission of this paper.]

Although the largest number of migrants in Delhi has come from Uttar Pradesh, the rate of influx was very high from Bihar and West Bengal. The reason can be traced to lack of economic growth and low level of wages in these states for a long period.

Change in employment pattern

An overview of NSS 50th round (conducted in 1993-94) and 61st round (conducted in 2004-05) data with respect to employment pattern in Delhi clearly shows the rise in share of regular employment over self-employment or casual work. This in turn indicates the growth of organized sector employment opportunities in the city.

Table 7: Distribution of employed people (Number per 1000 usually employed workers)

Workers	NSS 61st round (2004-05)			NSS 50th round (1993-94)		
	Self employed	Regular wage/salaried	Casual labour	Self employed	Regular wage/salaried	Casual labour
Male	371	590	39	441	452	107
Female	159	796	44	242	576	182

Source: NSS Report no. 520: Employment and Unemployment situations in cities and towns of India, 2004-05

Wage differential leading to inflow of migrants to Delhi

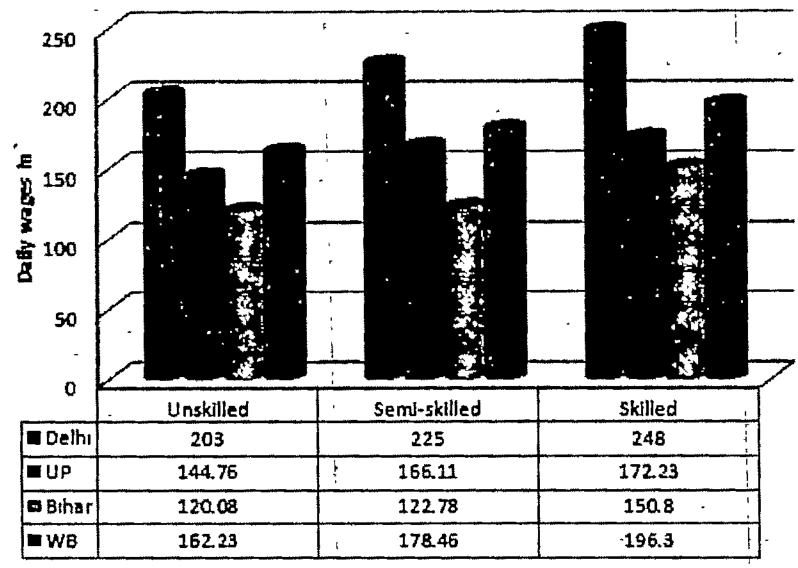
A reason for migrants flowing into the capital city from UP, Bihar and West Bengal is the wage differential. The Delhi Human Development Report, 2006 claimed that about 46 percent of the migrants during 1991-2001 came from Uttar Pradesh and Uttarakhand and another 23 percent from Bihar.

Table8: Average daily wages in 2010 – an inter-state comparison (values in ')

Average	Delhi	UP	Bihar	West Bengal
Unskilled workers	203	144.76	120.08	162.23
Semi-skilled workers	225	166.11	122.78	178.46
Skilled workers	248	172.23	150.80	196.30

Source: www.labourbureau.nic.in [Data compiled by the researcher]

Fig 2:Comparative wages - Delhi and other states



	Unskilled	Semi-skilled	Skilled
■ Delhi	203	225	248
■ UP	144.76	166.11	172.23
▨ Bihar	120.08	122.78	150.8
■ WB	162.23	178.46	196.3

Source: www.labourbureau.nic.in

An analysis of per capita consumption expenditure in these states also confirms the higher living standard in Delhi attracting people from other states to migrate here.

Table 9: Monthly per capita consumption expenditure for Delhi & some other states (values in ')

States	1983-84	1993-94	2004-05
Delhi	228.64	777.01	1047.54
UP	110.45	297.62	726.02
Bihar	99.53	236.78	446.38
West Bengal	122.03	333.36	712.19
Rajasthan	134.5	346.6	724.27
All India	125.13	328.18	700.33

Source: NHDR, 2011, Table 3A.9. Data compiled by the researcher.

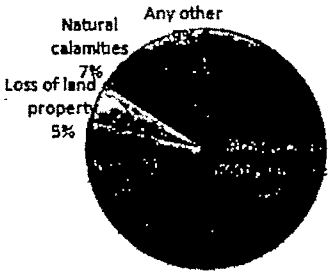
The primary data collected by the researcher show that 61 per cent of the respondents migrated to Delhi for the prospect of better income.

Table10: Causes of migration

Cause of migration	Percentage of respondents
Prospect of better income	61
Marriage	18
Loss of land or property	05
Natural calamities	07
Any other	09
Total	100

Source: Primary Data

Fig 3 : Causes of migration



Higher incomes coupled with enhanced job opportunities boost the aspirations of the migrants

Improved living standards, higher per capita incomes combined with increased share of tertiary sector in Delhi's GDP to create employment opportunities pushed up the aspirations of the migrants in Delhi.

India Human Development Report, 2011 mentioned that the contribution of the tertiary sector to GDP is very high in Delhi (about 97percent) as compared to its industrial sector(less than 1 percent). According to economists the high and rising relative contribution of the tertiary sector to GDP makes a qualitative change in the economic growth of a country or a place and implies improved level of development. This is apparent from the value and ranks of the Human development Index for Delhi.

Table11: Human Development Index for Delhi

Year	India	Delhi	
		Value	All India Rank
1981	.302	.495	III
1991	.381	.624	II
1999	.387	.783	I
2008	.467	.750	II

Source: NHDR, 2001, page 140,141, Table 1.1, 1.2 & NHDR, 2011, page 24, Table 2.4

As the tertiary sector jobs require trained and skilled employees, the growth of this sector in the post-reform period has motivated the job seekers to get themselves trained and educated in order to seize those jobs.

Rising wage level has ensured rising standard of living even for the poor migrants in Delhi. The homes in shanty towns often have televisions, cooking gas, fridge and cooler. The researcher found this in almost all slums. Besides, an increasing number of slum dwellers in Delhi are in possession of motorbikes, adding speed and mobility to their lives. A reference can be made at this point to the findings of the National Family Health Survey (NFHS3) in 2005-06 with respect to Delhi slums which shows a comfortable living standard for a significant number of slum dwellers.

Table12: Household possessions in Delhi slums

Household possessions	Percentage of slum dwellers
Mattress	70.2
Pressure cooker	69.8
Chair	43.5
Cot or bed	77.6
Table	42.6
Electric fan	86.4
Radio or transistor	37.0
Television	68.0
Sewing machine	32.4
Mobile phone	30.4
Refrigerator	30.9
Watch or clock	84.9
Motor cycle or scooter	12.5
Car	2.7
House	86.3
Bank account	43.8

Source: NFHS, 2005-06 (compiled by the researcher)

Under the normal rule of economics the fulfilment of basic needs leads to demand for items of comfort which includes education and health care. This was apparent from the study conducted by the researcher.

The primary data shows that the migrant parents at large do not want their children to do the same menial work as they do. They want their children to go to school so that they can get better job opportunities in future. And of course they can now afford to send their children to school and are eager to support their education at least up to college level.

After coming to the capital city they settled down for employment mostly in unorganized sectors as skilled or unskilled workers. Many among the women remained unemployed and looked after the households.

Table 13: Occupational status of the parents of migrant children

Parents' occupational status	Father(per cent)	Mother (per cent)
Un-skilled Labourer	25	18
Skilled Labourer	43	03
Self employed/ Petty business	18	05
Unemployed/ Housewife	10	73
Others	04	01
Total	100	100

Source: Primary Data

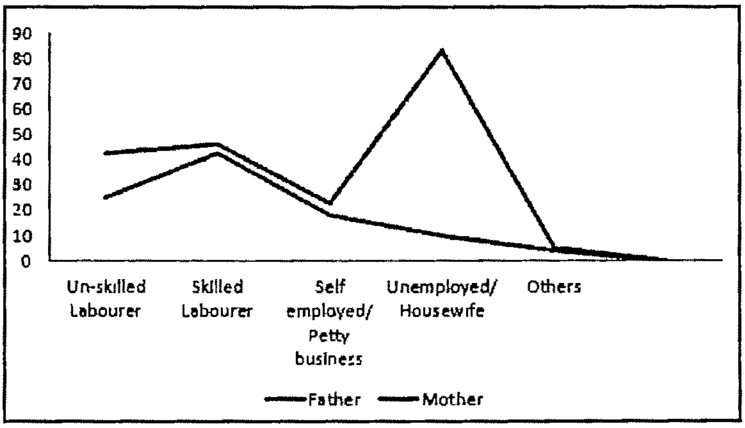


Fig 4 Migrant parents occupations , Source: Primary Data

But the migrant children as well as their parents from across the city revealed their high aspiration levels with respect to education. The study found out that they see education as a vehicle to ride to a better life where they can find the jobs of their dreams. An analysis of the current occupational status of the migrant parents and the aspired occupation of their children presented in Tables 13 and 14 will reveal the sharp contrast between their realities and their hopes.

Table 14: Desired occupations of migrant children surveyed

	WHAT DO YOU WANT TO BE?							
Occupation → Slums ↓	Doctor	Engineer	CA/Lawyer /Manager /Pilot	Govt. Officer	Teacher	Non-Conventional	Others (Business / Self empt. Petty jobs etc.)	Total
Rangpuri Pahari	1				7	1	1	10
SIM Basti			1	2	4	1	2	10
Nehru Camp	3	1	1	2	3	1	1	12
Shiva Kunj		1	3	2	1		3	10
NSCI JJ Colony	2	5	2	2	5	3	1	20
Govindpuri	1	1	1	2	3	1	1	10
Ashram		1			5	3	1	10
Mahavir Enclave	1	4	1	1	2		1	10
Pusa Gate	1	1		4		2		08
Total	09	14	09	15	30	12	11	100

Source: Primary Data

In return, they feel that the family as a whole will reap the benefit of this investment in their children's education.

Table15: Family's benefits from the achievements of the child (as perceived by the migrant parents)

Benefits to the family	Percentage response by migrant parents
Financial	19
In terms of elevated social status	35
His connections will pull up others in the family	08
All of the above	29
Family does not expect anything	08
Total	100

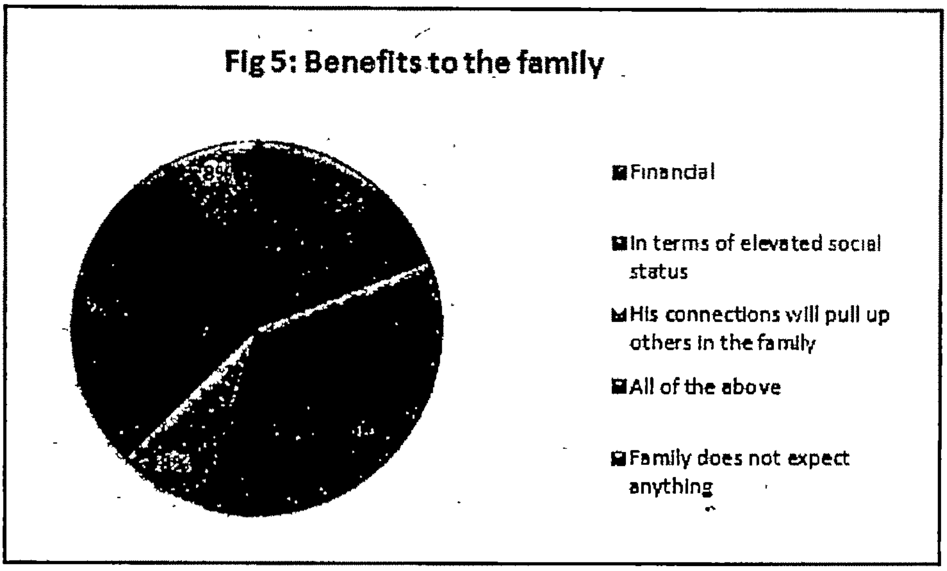


Fig 5: Benefits to the family

Source: Primary data

Source: Primary Data

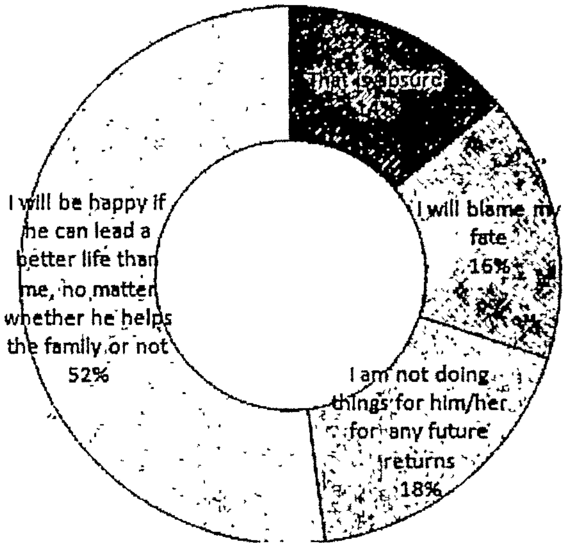
When prodded by the researcher - "Suppose the child, when starts earning, does not take care of you, what will you feel?"- migrant parents were caught off guard. But they did not admit their frustrations. Rather, like the typical Indian parents, willing to do everything for their children without expecting the fruits of labour, 52 percent of them said, "I will be happy if he can lead a better life than me, no matter whether he helps the family or not".

Table 16: Fruits of Labour if not reaped

Responses	Percentage of migrant parents
That is absurd	14
I will blame my fate	16
I am not doing things for him/her for any future returns	18
I will be happy if he can lead a better life than me, no matter whether he helps the family or not	52
Total	100

Source: Primary data

Fig 6: Fruits of Labour if not reaped ?



Source: Primary Data

Inference

From the analyses of primary and secondary data the researcher draws the conclusion that the reforms in 1991 boosted the economic growth of the city of Delhi. This has led not only to increase in job opportunities in the capital city but also an increase in private sector jobs. The scope of employment in organized sector has also gone up creating a demand for skilled, educated and trained work force. The poor migrants who came to the capital city from other parts of the country to change their fate and worked mostly in unorganized sector, have seen the prospect of getting a higher paid job for their children and at the same time realized that it is possible only when they are trained and educated. As their earning in the city is comparatively much higher than what they could have earned back in their villages, they do not require their children to work with them to make ends meet. They can now afford to spend a little money on education of their children. The prospect of a better paid job at the end of school or college has greatly influenced these migrant workers living in the slums of Delhi and consequently, as observed by the researcher, their educational aspirations have gone up in the post-reforms era.

References

Alternative and Innovative Education for out of school children, SSA document, p.3, available at www.edudel.nic.in (14/06/2012)

Anand, Abhay (2012). *Will Vocational Education provide a lucrative career option to the Indian youth?* A feature on India Education Review, electronic version http://www.indiaeducationreview.com on 6/03/2012.

Anderson, Kurt (2011, 14 December). The Protester. The cover story in the Annual issue of *Time Magazine*.

Directorate of Economics & Statistics, Government of NCT of Delhi. NSS 64th Round Data, state sample. Retrieved from http://des.delhi.gov.in on 15/08/2012.

Govinda, R. (2002). *India Education Report pp.6.* Delhi: NUEPA. HDR,2009,p.59 ch2, p.28, 50-51

India Human Development Report, 2011., New Delhi: Planning Commission, GOI. pp. 24

Ministry of Labour and Employment, GOI. *Minimum Wages Act, 1948.* Retrieved from http://labour.nic.in/wagecell/mwact.pdf on 13/04/2011

National Family Health Survey 3, 2005-06

National Human Development Report, 2001. pp. 140-141, New Delhi: Planning Commission, GOI.

NFHS3, Delhi, page 33, Table 6, data for the year 2005-06

NSS 64th Round Data: *Employment and Unemployment Situation in India (July,2007 - June,2008): Highlights*, pp. H-i. Retrieved from http://mospi.nic.in/mospi_new/upload/nsso/531_533_Highlights.pdf on 25/08/2012.

www.edudel.nic.in visited on 04/06/12, 16/06/12.

Impact of SSA in West Bengal: Equity and Some Quality Aspects

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Abstract

The present evaluative study dealt with equity and some quality aspects at primary education level as the impact of SSA in West Bengal. The main objectives of the study were – (i) to assess the students' attendance on the basis of actual head counting of students in the classrooms in early and late hours of schools, (ii) to find out the difference in attendance rates of boys and girls, and students belonging to different social groups in rural and urban areas, (iii) to identify the reasons behind students' missing classes and remaining absent from school as perceived by teachers, parents and community, (iv) to find out the quality associations of achievement in annual examination with students' attendance, repetition and drop-out rates. The data related to present profiles of school infrastructure, teacher and community were analyzed. The objective wise analyses of data indicated the impacts of SSA in terms of equity and some quality aspects in West Bengal. The study concluded with some suggestions for its qualitative improvement.

Key Words: *SSA, Equity in education, Quality in education.*

The Background

The decade of the 1990s had witnessed many international conferences and summits including the World Conference on Education for All (1990), the World Summit for Children (1990), the International Conference on Women (1994), the International Conference on Population Education and Development (1995), the World Social Summit (1995), and many more. One common message that came out of all these conferences was *to ensure quality education for all children*. The 1990 declaration of WCEFA, held in Jomtien, Thailand, was reaffirmed as the right to all people to education in the declaration of Dakar WCEFA (2000) and also set the same goal with new target as because most of the third world countries were lagging behind the earlier target (UNICEF, 2001).

India has a long-standing commitment to universalize the elementary education (UEE). The spirit of the 73rd and 74th Constitutional amendments had set the stage for greater decentralization of power and a significantly enhanced role for local bodies, community organizations as well as voluntary agencies in the efforts towards UEE. The 93rd Constitutional amendment has made the *right to elementary education* a *Fundamental Right* and the recently developed Right to Education Act, 2009 has enforced it through the

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necessary statutory measures. Holistic and convergent community participation in UEE programs and target-group oriented strategies have already been under taken to fulfill the national commitment, especially, during the last four (Eighth, Ninth, Tenth & Eleventh) Plan periods. As a result, India has recorded an impressive progress in the expansion of literacy and elementary education (Rustagi & Mehta, 2006). In between 1991 and 2001, literacy rate grew from 52 to 65 per cent, the highest ever rate of increase throughout the last century (Census Report, 2001). In respect to children's education too, a remarkable progress has been noticed. GER at the primary level was increased by about six times from 1950 to 1999. Drop-out rates at the primary level declined from 65 per cent in 1960-61 to 40.3 per cent in 1999-2000 and the problem of access in primary education has been substantially addressed (GOI, Selected Educational Statistics, 2001).

The NPE (1986) expanded the definition of UEE as consisting of not only of universal enrolment and participation, but also of ensuring universal achievement of at least a minimum level of learning (MLL) by all. This expanded vision of UEE brought quality concerns to the centre stage in all development projects related to elementary education in India.

The ninth plan (1997-2002) regarded education as the most crucial investment in human development. The Prime Minister's Special Action Plan (2005) gave emphasis to the total eradication of illiteracy, equal access to and opportunity of education up to the school-leaving stage, improvement in the quality of education at all levels, and need for expansion and improvement of infrastructural facilities. In the elementary education sector, the Tenth Plan targets the SSA with clear focus and specific goals – (i) Universal Access, (ii) Universal Enrolment, (iii) Universal Retention, (iv) Universal Achievement and (v) Equity.

The main objective of SSA is to ensure that all children in the age group 6 – 14 years will not only attend the school but also complete elementary education and receive quality education. In order to provide education of satisfactory quality, an important requirement is that teachers teach as they are supposed to and students remain in the classrooms (or in the schools) when the teaching is going on. Learning is a continuous process; the gap in the process, particularly of a longer duration is detrimental to young students' learning. It not only adds to his/her load of non-comprehension leading to lower achievement but also increases repetition and drop-out rates. Studies have shown that learner achievement is highly correlated with time spent on teaching-learning (Govinda & Verghese, 1991). The year 2007 was crucial not only for the target year to realize the many of our specific objectives set for SSA program and goal of the Tenth Plan, but also important for fulfilling the international target of gender specific quality education for all by 2010. Hence, it was found important to review the impact of SSA program of our country, particularly in the context of UEE and its quality aspects.

The main challenge of the SSA program is to make a qualitative improvement in the contents and processes of elementary education, in order to make them more responsive to the learning needs of individuals and the development needs of different socio-economic sectors. It involves tackling high drop-out and low retention rates in primary and upper primary schools, and improvements in the preparation, motivation and deployment of teachers, as well as the quality of textbooks and of infrastructural facilities. It also requires making education relevant to society's needs and strengthening the management and institutional capacity building, especially at the state, district and local levels.

The figures of the Census Report (2001) reveal that the state of West Bengal has made considerable advancements, especially in the decreased rate of population growth (17.84% against 24.73% in 1991) and the improvement in the sex ratio, which now stands at 934 (against 917 in 1991) females per 1000 males. The state has also done considerably well in the agricultural sectors (Dreze & Sen, 1995). Political stability, decentralization of power through *Panchayates,* reservation for women representatives in public administration, rapid growth of industry, promotion of self-help groups, etc. are some of the progressive initiatives which have created a pro-learning environment in the state. Apart from the traditional educational thrust from the middle-class families, a large number of first-generation learners are approaching schools for their formal education with much enthusiasm and vigor. Thus, a neo-learning society has been emerging which is completely different in character. But, the question is whether our elementary school system ready to provide quality education to them. Despite such progressive and positive environment, West Bengal could only manage the 18th place among the 35 Indian states and union territories. This is just one step forward from the previous position of 19th according to the 1991 Census. With a considerable gender gap (77% and 59.6% for male and female respectively) the literacy rate in West Bengal has achieved only 68.6% at present (State Elementary Education Report Card: 2005-06).

Like some other states, in West Bengal too, it seems, quality of schooling, overall school environment and other imbalances are responsible for non-realization of the goal of UEE. The most significant imbalances identified by Professor Amartya Sen (2002) are economic imbalances, social imbalances and regional imbalances.

The WB State Government had undertaken a plan of action to bring 98% of the children (6-11 years) to school within 2006-07. To realize the goal emphases on improving the quality of education, reducing drop-outs, increasing enrolment and attendance had been given with the DPEP project, which was started in all the districts of West Bengal. The annual report (2000-01) of the Department of School education, Government of West Bengal, indicated a positive change in the enrolment of SC, ST and girl children in the 10 DPEP districts formed in the first and second phases. The report further stated that 12,448

VECs and 469 WECs have been formed to promote the quality of elementary education. Hence, the stock-taking of our progress due to intervention of the SSA program in West Bengal is found needed.

With this contextual background, the present study aimed to provide some insights into the results derived from SSA interventions in West Bengal. Providing access and motivation to the difficult to reach marginalized groups, without compromising with the quality of education is the crucial challenge to SSA. However, changes have been reflecting in different aspects of elementary education due to this intensive program since 2000. Quality of elementary education is the central theme of this study. But in the Indian context, quality of education can not be ensured without proper access and equity. The other basic issue of achieving quality education is the teacher-taught interaction hour. Focusing on the basic assumption that success of the SSA program depends on achieving quality elementary education for all with equitable access and optimum level of teacher-taught interaction, the present study was designed (GoWB, 2003).

Objectives

1. To assess the attendance on the basis of actual counting of students present in the primary classrooms;
2. To find out the difference in attendance rates of boys and girls and of students belonging to different social groups in rural or urban areas at the primary schools;
3. To find out the reasons of students' missing classes and remaining absent from school as perceived by teachers, parents and community;
4. To assess the relationship of students' attendance with the quality as indicated by repetition and drop-out rates, and achievement in examination results.

Method

Sampling: The target population for the study was all students of government, local body, and private aided primary schools of West Bengal. The whole method of sample selection was organized on the basis of multi-stage random sampling from the schools having number of average absentees at least 35%. The primary schools selected in this manner for the state of West Bengal were total 310 having 50 urban and 260 rural schools (260 villages) from 12 Municipalities and 20 Blocks of 13 Districts (including Kolkata Metro) under four socio-cultural zones of West Bengal.

Tools: To conduct an extensive survey to estimate the attendance, drop-out, repetition and achievement rates of primary students of different category along with the school condition, opinions of the parents, members of the VEC/ WEC and community, six tools were developed in consultation with the experts of Ed. CIL, New Delhi – (a) School schedule, (b) Teacher Questionnairé, (c) School Observation Sheet, (d) Students Record Sheet, (e) Parents Interview Schedule and (f) Interview Schedule for VEC.

Analysis and Results

1. School Infrastructure Profile

It was found that 9.6 % of the rural primary schools and 9.4 % of the urban primary schools had the *pre-primary schooling facilities.*

The general scenario of *physical accessibility* of the primary and upper primary schools in West Bengal revealed that on an average, about 37 % of the primary schools were situated within the range of one km. from the nearest bus stop or railway station, but in the rural areas, only 29 % of the primary schools and 23 % of the upper primary schools were found situated within the distance of one km. from the bus stop/ railway station. Approximately, 27 % rural primary schools were located beyond the range of five kms from the nearest bus stop/ railway station. But in the urban areas, 78 % primary schools were situated within one km from the bus stop/ railway station. Only 2 % rural primary schools but no upper primary schools were found beyond the range of five kms.

In respect to *working days in schools*, it was found that the average number of working days in primary schools (235.2 days) was found against the state norm of 248 days of school working days. It was also noticed that school working days in rural areas were slightly better in comparison with the urban schools. On an average, almost one-third of the *teaching days lost* mainly due to *bad weather* and that were 4.1 and 4.8 days respectively for rural primary, urban primary schools. The impact of the *natural calamity* on the school working days was found minimum of 1.4 % only out of the total lost teaching-days. But schools were found closed more than two days on an average due to other various reasons.

It was found that rural *school houses* were more *pucca* than the urban schools. 72 % of the rural primary schools and 66 % urban primary schools were running in *pucca* houses. Apart from that 4 % rural primary schools and 3 % urban upper primary schools were found running in *kuchcha* houses. It is significant to note that almost one per cent rural primary schools were running in the *open space or under the trees.* In West Bengal, almost 80 % urban primary and 42 % rural primary schools have good approach roads. *Clear and well kept surroundings* were noticed in almost 63 % schools of the state, out of which urban schools were slightly better (65 %) than the rural schools (62 %). In respect to adequacy of *furniture for students in schools*, on an average only 44 % schools had the same and only 32 % rural schools were equipped with the adequate furniture. It was also found that 50 % urban primary schools had no sufficient furniture for students. Regarding the provision of *safe drinking water in schools,* only 64 % schools had the provision. The minimum provision was found in the urban primary schools (58 %).

Conditions of *school buildings* revealed that maximum number of schools (40%) needed minor repair of school building. It was found that 36 % urban primary schools and 20 % urban upper primary schools were well maintained. But 45 % rural primary schools require minor repairing works and 31 % schools of the state need major repair. About 40 % schools of the state found *classrooms with adequate space* and 40 % schools had some of the classrooms *over crowded* and that was found almost 50 % in rural schools. all the classrooms of 15 % rural primary schools and 13 % urban primary schools were found. *over crowded*. Almost 61 % classrooms of the schools in West Bengal were *well ventilated with sufficient natural light.* About 12 % schools were *not well ventilated and not with natural light.* 63 % rural schools were found *well ventilated with natural light*, on the other hand, 14 % urban schools were *not well ventilated.* In 68 % schools of the state *toilets* were found *available and used* by the students, and *separate toilets for girl students were available and used* in 58 % of the schools. *Toilets* were available and used in 66 % urban primary and 65 % rural primary schools. About 17 % schools though had the *toilets* but were *not used* by the students and there was *no toilet* in 15 % schools. Toilets were not found in 21 % rural primary and 20 % urban primary schools. In the primary level, 49 % rural primary and 40 % urban primary schools had *no separate toilet for girls.*

It was found that classes were held in 2.93 *classrooms* on an average including *verandah* per primary school. Average numbers of students per school attending classes were 109.3 at the primary level. Furthermore, 17.8 students per primary schools were found attending classes in *verandahs*. Furthermore, on an average 0.9 students per primary school were found attending classes in the open space under the trees.

Regarding *availability and use of learning equipments*, it was found that science kits were available and used in 44 % primary schools. In 18 % primary schools science kits were found available but not used by the students. But no science kit was available in 38 % primary schools of West Bengal.

2. Teacher Profile

Number of *teachers required and in position* in different schools in the State was as on September 30, 2005, out of 3.28 required teaching posts per primary school according to the state norm, on an average 2.92 posts were filled up with 2.75 regular teachers and 0.17 para-teachers. Among them female regular teachers and female para-teachers were 30.63 % and 12.82 % (out of total para-teachers) respectively. Similarly, as on September 30, 2006, out of 3.51 required teaching posts per primary schools according to the state norm, on an average 2.95 post were filled up with 2.79 regular teachers and 0.16 para-teachers. Among them female regular teachers and female para-teachers were 25.83 % and 20.3 % (out of total para-teachers) respectively. It was found slight increase in teacher position during a year.

The overall *male-female teacher ratio* in the state was 65:35. In the rural primary schools, the ratio was 80:20, but in the urban primary schools that was 40: 60. The overall *regular – para-teacher ratio* was found 95:5. The overall status of teachers on leave was found 0.6 %.

During the three visits, out of total 766 teachers in position in the rural primary schools, over all *presence of the teachers* were 732.5 (95.5 %) on an average with a gap between first period and last period of one teacher.

More than half of the elementary teacher population (51 %) belonged to the *age group* 45 to 60 years. It was further found that 44 % of the primary teachers and 50 % of the urban primary teachers were found very senior between the age group 45 to.60 years. About 35 % teachers were found between the age group 30 to 45 and the age group of rest of the teachers belonged within 30 years were only 19 %.

Almost half of the primary teachers (48 %) had the *academic qualification* of higher secondary (10+2) level. There was no post-graduate teacher in the urban primary schools but 3 % rural primary teachers had the post-graduate qualification. Regarding *professional qualifications*, it was found that 17 % primary teachers had no professional training. In the rural primary schools teachers were mostly with nursery training (35 %) and JBT (37 %) and in the urban primary schools those were 30 % and 36 % respectively.

In connection with the *time* usually *taken by teachers to reach schools,* it was found that almost 43 % teachers could reach the school within half an hour but about 11 % teachers were commuting daily for more than two hours to reach their respective schools. It may further be noted that about 75 % rural primary teachers and 78 % urban primary teachers could reach their respective schools from their homes within an hour.

3. Community Profile

Parents of a total of 3950 *low-attending students* (with below 65% attendance) were interviewed, whose average age was 9 years or more. It was also found that in the primary level 45% respondents were female. But in the rural areas, female parents were 41 %. The average social group wise distribution of interviewee parents were 41 % for others, 23 % for MM, 22 % for SC, 3 % for OBC and 3% for ST at the primary level.

The profile of the *VEC members* who responded regarding attendance of the school children indicate that out of total respondents of 388 VEC / WEC / SMC members, approximately 25 % at the primary level female respondents and that was 28% at the urban primary level. Almost 39 % respondents at the primary level were chairpersons of the concerned VE Cs and the rest were only members.

Objective-wise Analysis

1. *Students' Attendance on the Basis of Actual Counting*

Table: 1: Students' attendance (%) as per head count at primary level

Class	Visit	Student enrolled	No. of students present in		Average attendance in a day (%)			Differenc in attendance
			Ist half	2nd half	Ist half	2nd half	Overall	
I	**First**	12295	8650	8677	70.4	70.6	70.5	0.2*
	Second	12295	9000	8941	73.3	72.7	73.0	0.6
	Third	12295	9095	9077	74.0	73.8	73.9	0.2
	Average	***12295***	***8915***	***8898.3***	***72.6***	***72.4***	***72.5***	***0.2***
II	**First**	9454	6831	6909	72.3	73.1	72.7	0.8
	Second	9454	7114	7066	75.5	74.7	74.9	0.5
	Third	9454	7287	7229	77.1	76.5	76.8	0.6
	Average	***9454***	***7077.3***	***7068.0***	***74.9***	***74.8***	***74.9***	***0.1***
III	**First**	9051	6674	6717	73.7	74.2	73.9	0.5*
	Second	9051	6659	6825	73.6	75.4	74.5	1.8
	Third	9051	6810	6923	75.2	76.5	74.8	1.3*
	Average	***9051***	***6714.3***	***6821.7***	***74.2***	***75.4***	***74.8***	***1.2****
IV	**First**	9362	6797	6853	72.6	73.2	72.9	0.6*
	Second	9362	7097	7217	75.8	77.1	76.8	1.3*
	Third	9362	7210	7351	77.0	78.5	77.8	1.5*
	Average	***9362***	***7034.7***	***7140.3***	***75.1***	***76.3***	***75.7***	***1.2****
Total	**First**	***40162***	***28952***	***29156***	***289.0***	***291.1***	***290.0***	***1.1****
	Second	***40162***	***29870***	***30049***	***298.2***	***299.9***	***299.2***	***1.7****
	Third	***40162***	***30402***	***30580***	***301.4***	***305.3***	***303.3***	***3.9****
	Average	***10040.5***	***7568.9***	***7929.3***	***74.2***	***74.7***	***74.5***	***0.5****

*Increased in the second half

Table 1 shows students' *enrolment and attendance as per head count of the primary students* during three unannounced visits of the schools under study both in first and last hours of the schools. In respect to enrollment no change was noticed during the three visits but attendance rates gradually increased with the number of visits almost in each of the classes. It was found that 12,295, 9,454, 9,051 and 9,362 students were enrolled for classes I, II, III and IV respectively in 310 primary schools. The overall average attendance rates in first halves of three visits for different classes were found 72.5 %, 74.9 %, 74.8 % and 76 % for classes I, II, III and IV respectively, whereas the second half average attendance rates were 72.4 %, 74.8 %, 75.4 % and 76.3 % respectively for the same classes. It indicated a gap in presence of students in the classrooms between the first half and second half of the school hour, ranging from 0.2 % to 1.2 % with a trend of presence of more students in classes III and IV in the second half of the school hour.

2. Difference in Attendance Rates with regard to Gender and Social Groups

Table 2: Students' presence (%) with regard to gender and social groups at the primary level

Class	Visit	Students found present (%) in first hour						
		Boys	Girls	SC	ST	OBC	Others	MM
I	1st	68.4	72.3	68.7	67.1	79.9	79.2	64.7
	2nd	71.2	75.3	71.3	70.6	74.8	80.4	69.7
	3rd	71.4	76.7	71.4	72.3	82.5	80.5	70.9
II	1st	72.6	71.9	69.7	71.2	81.8	82.0	61.1
	2nd	75.9	74.5	73.7	72.8	85.0	83.3	65.7
	3rd	77.2	76.9	75.1	73.3	85.0	85.6	68.1
III	1st	71.3	76.3	70.4	66.2	80.5	85.9	67.8
	2nd	70.5	76.7	72.0	64.0	84.1	79.4	71.7
	3rd	75.1	75.4	74.9	65.3	83.7	79.6	73.8
IV	1st	71.7	73.6	69.6	66.8	81.3	81.5	67.5
	2nd	75.1	76.5	74.2	67.1	75.4	84.5	71.2
	3rd	77.5	76.5	74.4	70.6	79.5	85.0	73.2
Total	1st	71.0	73.5	69.6	68.5	80.9	82.2	65.3
	2nd	73.2	75.8	72.8	68.6	79.8	81.9	69.6
	3rd	75.3	76.4	73.9	70.4	82.6	82.7	71.5
Average		**73.2**	**75.2**	**72.1**	**69.2**	**81.1**	**82.3**	**68.8**

Table 2 represents the *students' presence with regard to gender and social groups* along with their enrolments in different classes of primary level. It was found that on an average the attendance ratio of boys and girls was 73:75, i.e., more girl students were found attending primary schools than the boys. According to social groups, the primary students of others category were attending classes at a maximum (82 %) rate, whereas the MM students were at the lowest (69 %) rate. The attendance rates of SC, ST and OBC groups were 72 %, 69 % and 81 % respectively.

The *urban-rural variation in attendance* is given in Tables 3. Table-indicates that out of 6,990 urban primary students, the average attendances were 64.8 % (as per attendance register) and 65.8 % (as per head count) and out of total 5,957 rural primary students those were 70% (as per attendance register) and 76% (as per head count) respectively. Thus, there were gaps between the records of attendance register and the actual head count in the primary schools of both the rural and urban areas with a distinct indication of increase in attendance through head counts with the school visits. It was further found that attendance rates in rural primary schools were better (75.9 %) than the urban schools (65.8 %).

Table 3: Average Attendance (%) of students across the areas at primary level

Area	Class	Enrolment(2006-07)	Total Average Attendance (2006-07)	
			As per attendance register	As per head count
Urban	I	2028	57.3 %	59.2 %
	II	1647	67.1 %	68.0 %
	III	1646	66.7 %	66.9 %
	IV	1669	68.1 %	69.2 %
	Total	***6990***	***64.8 %***	***65.8 %***
Rural	I	10267	65.8 %	75.1 %
	II	7807	72.6 %	76.3 %
	III	7405	74.7 %	75.8 %
	IV	7693	68.7 %	76.4 %
	Total	***5957***	***70.45 %***	***75.9 %***
Urban + Rural	I	12295	64.4 %-	72.5 %
	II	9454	71.7 %	74.9 %
	III	9051	73.3 %	74.8 %
	IV	9362	68.6 5	75.2 %
	Total	**40162**	**69.5 %**	**74.5 %**

Table 4: Average attendance in different months of the academic session 2005-06 Months* (2005-06)

Class	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	*Average monthly attendance*
I	1778.4	6714.5	7553.0	8017.1	8019.7	7979.4	7650.5	7793.5	7848.1	7998.9	*7655.7*
II	6353.1	6266.0	6436.3	6594.9	6663.8	6565.0	6568.9	6587.1	6484.4	6471.4	*5847.4*
III	6316.7	6514.3	6362.2	6589.7	6487.0	6329.7	6401.2	6457.1	6617.0	6705.4	*6477.9*
IV	6039.8	5909.8	6193.2	6273.8	6420.7	6173.7	6247.8	6440.2	6485.7	6457.1	*6264.7*
Total	**6422.0**	**6351.8**	**6636.5**	**6869.2**	**6897.8**	**6762.6**	**6717.1**	**6819.8**	**6858.8**	**6908.2**	*6561.1*

Months*= As per academic session

Seasonal variations in the attendance rates are given in Table 4. During the academic session 2005-06, it was found that the average attendance of the primary students varied with the months and seasons. Out of total 40,162 students, maximum number of students attended schools in the month of February, the month of annual examination and minimum was in June. In the mid-session, that was found maximum in September.

3. *Reasons for Students Missing Classes and Remaining Absent*

Out of total 388 schools, headmasters of 334 schools of different category had reported about the *periodic low attendance* in their respective schools. Table 5 reveals that according to the observations of head teachers, the main reasons of periodic low attendance of primary students were mainly *illness or health related problems* (68 %), *lack of interest in studies* (51 %), *being engaged in household works* (42 %), *parents' lack of interest* (33 %), and *participation in social and religious functions* (33 %).

Table 5: Number and % of school head teachers giving different reasons for low attendance

	Primary level						**Upper primary level**					
	Rural		**Urban**		**Total**		**Rural**		**Urban**		**Total**	
	n	%	*n*	%	*N*	%	*n*	%	*n*	%	*N*	%
Lack of interest in studies	*143*	55.0	*16*	32	***159***	**51.3**	*12*	25.0	*9*	30.0	***21***	**26.9**
Poor economic conditions of parents	*58*	22.3	*32*	64	***90***	**29.0**	*12*	25.0	*16*	53.3	***38***	**48.7**
Being engaged in household work	*107*	41.1	*23*	46	***130***	**41.9**	*18*	37.5	*11*	36.7	***29***	**60.4**
Being required to earn or to help in agriculture etc	*46*	17.7	*4*	8	***50***	**16.1**	*31*	46.6	*3*	10.0	***34***	**43.6**
Family migrating to other places	*4*	1.5	*5*	10	*9*	2.9	*2*	4.2	*6*	20.0	*8*	10.3

Parents lack of attention to their wards' education	*83*	31.9	*19*	38	***102***	**32.9**	*11*	22.9	*7*	23.3	***18***	**23.1**
Participation in religious and social functions	*72*	27.7	*29*	58	***101***	**32.6**	*9*	18.8	*10*	33.3	***19***	**24.4**
Illness or other health problem of students	*199*	76.5	*12*	24	***211***	**68.1**	*34*	70.8	*17*	56.7	***51***	**65.4**
Family members being ill	*57*	21.9	*3*	6	***60***	**19.3**	*6*	12.5	*8*	26.7	***14***	17.9

Table 6: Number and % of school teachers giving different reasons for low attendance

Reasons	Primary level					
	R		U		T	
	n	%	*n*	%	*N*	%
Parents' lack of interest in children's education	*170*	65.4	*34*	68	***204***	**65.8**
Students' engagement in wage earning activities	*148*	56.9	*20*	40	***168***	**54.2**
Students' involvement in household work/taking care of younger brother / sister	*66*	63.8	*20*	40	***186***	**60.0**
Poor learning ability of children	*99*	33.1	*15*	30	***114***	**36.8**
Child's own illness	*60*	23.1	*25*	50	***85***	**27.4**
Illness in the family	*18*	6.9	*10*	20	***28***	**9.0**
Participation in religious and social events	*72*	27.7	*11*	22	***83***	**26.8**
Family migrating to other place in search of work	*43*	16.5	11	22	***54***	**17.4**

On the other hand, teachers had given different *reasons for low attendance* of students (Table 6). According to them four main reasons for low attendance of the primary students of rural and urban areas were found *parents' lack of interest for children's education* (66 %), *students' involvement in household works* (65 %), *students' engagement in wage earning activities* (56 %), and *poor learning ability of children* (41%).

Table 7: Family's responsibilities as cause of low attendance as per parents' perception (%)

Reasons	Frequency	Primary level					
		Rural		Urban		Total	
		n	%	n	%	N	%
Household responsibilities	Frequently	289	11.5	38	5.8	327	0.3
	Sometimes	653	26.0	115	17.6	768	24.2
	Rarely	925	36.7	158	24.2	1083	34.2
Involvement in earning activities	Frequently	223	8.9	21	3.2	244	7.7
	Sometimes	450	17.9	96	14.7	546	17.2
	Rarely	381	15.1	54	8.3	435	55.8

Table 7 shows the *parental perception* regarding family's responsibilities as cause of low attendance. Parents engaged their children for *household responsibilities* frequently only in 6 % to 13 % cases. Of course, children are sometimes engaged in some family activities in 18 % to 26 % cases. Approximately, 34 % primary students were to take some family responsibilities. Also in respect to *involvement in earning activities*, children are frequently engaged only 3 % to 11 % cases, sometimes engaged in 17 % 23 % cases and rarely engaged in 8.3 % to 19.8 % cases. But as a whole, it was found that 56 % of primary students were engaged in earning activities in any form.

Table 8: Common reasons for students remaining absent as per VEC members

Reasons	Primary level					
	Rural		Urban		Total	
	n	%	n	%	N	%
Their families move to some	53	20.4	7	14	60	19.4
They spend time on agricultural and other family business	167	64.2	42	84	209	67.4
They have to look after siblings/ household work at home	189	72.7	36	72	225	72.6
They are required to work on wage earning activities	176	67.1	27	54	203	65.5
School lacks some basic facilities	35	13.5	4	8	39	12.6
Teaching is not done in a language which they understand	6	2.3	2	4	8	2.6
They do not find the school attractive	12	4.6	3	6	15	4.8
Parents are indifferent to their education	107	4.1	14	28	21	39.0

Common reasons for students remaining absent as perceived by VEC members are given in Table 8. According to them, the most important four reasons were (i) *Children have to look after siblings/ household work at home* (73 %), (ii) *children spend time on agriculture and other family business* (67 %), (iii) *children are required to work on wage earning activities* (66%) and (iv) *parents are indifferent to the education* for primary (39 %) students. The other reasons that compelled children to remain absent from schools were found – *(i) Their families move to some other place for work, (ii) School lacks some basic facilities, (iii) They do not find the school attractive, and (iv) Teaching is not done in a language which they understand.*

4. Relationship of Students' Attendance with Quality Indicators

The study was designed to assess the relationship of students' attendance with the quality as indicated by repetition and drop-out rates, and achievement in examination results.

Table 9: Enrolment, repeaters and dropout in different classes at primary level

CLASS	No. of students enrolled in 2005-06			Number out of total enrolled children in 2005-06 who							
				are still in school				left the school			
	A	B	C	D		E		F		G	
	As on 30. 9. 2005	After 30. 9. 2005	Total	Promoted to next class		Repeated the same class		to join other school		Discontinued studies	
				n	% {(D/C) *100}	*n*	% {(E/C) *100}	*n*	% {(F/C) *100}	*n*	% {(G/C) *100}
I	11628	78	11706	*9485*	81.0	*1855*	15.8	*254*	2.2	*112*	0.9
II	9340	40	9380	*8737*	93.1	*430*	4.6	*149*	1.6	*64*	0.7
III	9442	17	9459	*8826*	93.3	*413*	4.4	*137*	1.4	*83*	0.9
IV	9307	10	9317	*8696*	93.3	*341*	3.7	*188*	2.0	*92*	1.2
Total	**39717**	**145**	**39862**	***35744***	**90.2**	***3039***	**7.1**	***728***	**1.8**	***351***	**0.9**

Table 9 represents the enrolment, repeater and drop-out rates in different classes of primary level during the session 2005-06. Out of total 39,862 enrolled students in the primary level, on an average 90 % student promoted to next respective classes having approximately 7 % repeaters and 1 % drop-outs. But the class I depicted the worst situation, where out of total 9,485 enrolled students, almost 1 % students were dropped-out, 2 % left for other schools, 16 % were repeaters and only 81% were promoted.

Table 10: Attendance records of students at primary level

	Primary level					
	Total working days in the year 2005-06: *235.2*					
Class	Enrolment Attendance (%)					
	R	U	*Total*	R	U	*Total*
I	9699	2007	*11706*	48.3	59.8	*54.0*
II	7567	1813	*9380*	45.2	59.2	*52.2*
III	7666	1793	*9459*	52.0	55.7	*53.9*
IV	7728	1589	*9317*	49.6	62.2	*55.9*
Average	**32660**	**7202**	***39862***	**48.8**	**59.2**	***54.0***

Tables 10 indicates that 10,927 students appeared in the last terminal examination of primary level (Class IV), but only 6,042 students, i.e., 55.3 % students had obtained 50 % or above the 'B' grade marks. The table further reveals that the average attendance rate of primary level was only 54 %, and that was lowest in class II (52 %) and highest in class IV (56 %).

To explore the relationship between students' attendance and quality indicators, statistics of simple correlations were computed for each class with significance levels. The relationship of students' attendance rate as independent variable with school level (a) repetition rate and (b) dropout rate, following quality variables were considered:

i. Location of school (Rural/ Urban);
ii. Students' Attendance Rate;
iii. Dropout Rates;
iv. Repeater Rate;
v Students' Achievement Rate securing 50 % or more marks at the terminal class (IV) of primary stage.

Table 11: Class-wise correlation of students' attendance with repeater (RR) and dropout (DR) rates

Class	Repeater Rate			Dropout Rate		
	Rural	Urban	Total	Rural	Urban	Total
I	-.099	-.165*	-.173*	-.765**	-.140**	-.808**
II	-.072	-.063	-.077	-.112*	-.237**	-.159**
III	-.162*	-.045	-.104	-.100	-.115*	-.113*
IV	-.111	-.082	-.128	-.073	-.120*	-.179**

**Significant at 0.01 % level; * Significant at 0.50 % level

From Table 11, it is interesting to note that there is a general negative impact of students' attendance on both the repeater rate and dropout rate in respect of all classes from I to IV. That means repeater rate and dropout rate were decreased with the increase in attendance rate and thus that may also be reversed with the absence. Class I in the primary level showed the higher profile of significant negative association between attendance and both the repeater rate and dropout rate. Significant negative relationships between attendance and dropout rates were also found as a whole for all classes of the primary level.

Findings

1. General infrastructural facilities of the primary schools in West Bengal need due attention, especially in respect to accessibility within one km, approach road, housing condition, providing safe drinking water in urban areas, classroom conditions, separate toilet facilities for girls etc.

2. General teaching-learning facilities may further be improved by introducing pre-primary schooling facilities, removing the shortage of teaching posts, controlling teachers' absence in schools and proper uses of science kits, mathematics kits and library.

3. The gender biased teacher profile should be balanced and on service training program for teachers in general is required for effective teaching.

4. In general, students' attendance should be increased to ensure the quality of education and for that purpose special attention be given in class I, girl students and MM students.

5. To minimize the students' absence in schools proper attention to be given to the student health care issues and to control the engagement in house hold works along with the engagement in wage earning or agriculture activities.

6. As quality of education is highly correlated with the students' attendance, endeavor to be taken for promoting attendance rates of the students particularly for girls, MM, disabled and rural students.

7. Strengthening roles of VECs/ managing committees, monitoring system and community awareness the attendance rate of the students as well as the goal of quality primary education may be achieved.

Conclusion

In conclusion, it may be stated that in spite of our committed efforts to achieve the goal of EFA by 2010, still we are lagging behind in respect to many of our targets. The Eleventh Five-Year plan has been completed and the Twelfth Five-Year Plan is now ready to implement. At this transitional period the present study in respect to West Bengal is crucial for identifying some issues regarding our strengths and weaknesses of the on going SSA program. A number of significant findings have been emerged out of the present study. But it is found that in spite of several limitations, there are some positive trends too. It is observed that a thrust for education has been emerging throughout the State across all levels of the community including the marginalized groups like, girls, MM, SC, ST, OBC and poorer students and thus as a result a large number of first generation learners are now growing rapidly in our primary schools. The next important task is to retain them in schools. The requirements of this new generation learners are probably quite different from the past. It is a new challenge to our whole elementary education system. To cope up the challenge, some limitations have been identified in our education system in the present study, but most of those can be solved with the changed perception and positive attitude. A good number of teachers, parents and VEC members are very much aware about the situation and they are eager to do something with positive mind-set. A joint balanced administrative support with teachers, VEC members and experts is now required to develop strategies to solve the problems on priority basis. A modified teacher education program for the pre-service and in-service teachers to achieve the goals of SSA is also required to be developed. In fine, a collective and committed approach with government, non-government and overall community is required to speed up this journey to reach the goal.

References

Batra, S. (2006). Equity in Education in India: A Distant Dream or an Ellusive Reality, Centre for Education, Action & Research, New Delhi p. 12.

Department of Human Resource Development (1986): Challenge of Education: A Policy Perspective, Government of India, New Delhi

Dreze, J & Sen, A. (1997). Indian Development: Selected Regional Perspective, Clarendon Press, Oxford; pp. 45-46.

GoI (2001); The Census Report, New Delhi.

Government of India (2002); National Human Development Report, 2001, Planning Commission, GOI, New Delhi.

Government of West Bengal (2002); Report of the West Bengal District Primary Education Programme (2000-2001), WBRPSUS, Kolkata.

Government of West Bengal (2003); State Plan of Action for Children, Women & Child Developmentand Child Welfare Department, Kolkata, pp.23-25.

Govinda, R. & Varhgese, N.V. (1992); Quality of Primary Education: An Empirical Study, Journal of Educational Planning and Administration, Vol. VI, No. 1, 17-35.

Rustagi, P and Mehta, B. S. (2006); Profile of Indian Children: Secondary Data Analysis, Seminar Paper, Universalising Elementary Education in India: Challenges, Experiences and Emerging Policy Issues, Institute for Human Development, New Delhi

UNICEF, Department of Women and Child Development (2001): First Periodic Report of the Convention on the Rights of the Child, Ministry of Human Resource Development, Government of India and UNICEF New Delhi, pp. xix-xxv.

Chattopadhyaya, B. (2000): Status Report of the State Convention 2000 on Education Right, West Bengal Education Network, Kolkata, pp.1-6.

NCERT (2004); All India Educational Survey, 2003-04, Government of India, New Delhi

Planning Commission (2002): Tenth Five-year Plan, 2002-07, Government of India, New Delhi

PROBE (1999): Public Report on Basic Education, Oxford University Press, New Delhi.

Inclusive Education: attitude and problems as perceived by the secondary school students

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Abstract

Inclusive education acknowledges that individual children differ in their abilities and support that each student receives quality education irrespective of their abilities, disabilities, ethnicity, gender and age. In India generally children without disabilities are sent to regular schools and with disabilities are sent to special schools. At present efforts are being made to make education inclusive in nature. Inclusive education means that all children, regardless of their strength or weaknesses are accommodated in a school and become part of the same school community. To achieve this vision we need to take into account what the children feel about such arrangement. The present study was conducted to look into the attitude of students studying in regular schools and those in inclusive schools of Kolkata, towards inclusive education. Information Schedule, Questionnaire and interview were used to collect data. The study provides an overview of attitude towards inclusive education of the students studying in regular schools and those in inclusive schools. The study also provides information about the advantages and disadvantages of the inclusive schools according to the students.

Key words: *Inclusive education, Attitude, Adolescents.*

Since education makes the room for equality and empowerment, every child has the right to get education. Many children with disabilities have become victim to an educational system which is not able to meet their individuals' needs. Inclusive education is a human right issue. Inclusive education means that all children, regardless of their strength or weaknesses are accommodated in a school and become part of the school community. Inclusive education encourages bringing all students together in one classroom and following the same curriculum regardless of their diversities.

UNESCO Salamanca Statement and Framework for Action (1994) proclaimed that, "Every child has a fundamental right to education and must be given the opportunity to achieve & maintain an acceptable level of learning. Every child has unique characteristics, interest, abilities and learning needs, educational system should be designed & educational programmes implemented to take into account the wide diversity of these

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[ϒ] Associate Professor, Department of Education, University of Calcutta Email:debasriban@gmail.com characteristics and needs. Those with special educated needs must have access to regular schools which should accommodate them within a child-centered pedagogy , capable of meeting these needs." Centrally Sponsored Scheme of Integrated Education for Disabled Children (IEDC) was launched by government of India in the 1970's. It aimed at integrating students with special needs in regular schools. The most important characteristic of this scheme was the liaison between special schools and regular schools. In the year 1987 National Council of Educational Research and Training (NCERT) with UNICEF launched the project Integrated Education for Disabled Children(PIED) which was an important step towards including students with special needs in conventional schools. NCERT in the year 2000 has given special importance to inclusive schools for all students without any reference to pupils with disabilities. This is being supported by the project like Sarva Siksha Aviyan (SSA) taken by the Department of Elementary Education in 2000.

So for the successful implementation of inclusive education, the attitude of different people in the society is very important. Eagly and Chaiken (1998) define attitude as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor."

The present study explores the attitude towards inclusive education and the prospects and challenges of inclusive schools of Kolkata. Shahazadi (2000) conducted a study on inclusive education perspective of services and found that teachers, administrators, professional and parents appear to be aware of the concept of inclusive education but are not sure about how it will implemented in ordinary settings. Avranides and Norwitch (2002) conducted a study which explores the evidence of positive attitude; however there is no evidence of acceptance of a total inclusion. Sengupta and Biswas (2003) in their study found that teachers know far too little about their pupils with special needs but they are willing to learn; social attributes are a major problem for these children and lack of close friends with similar disabilities contribute to that. Mcdougall et al. (2004) in their study found that Negative peer attitude as being a major barrier to full social inclusion at school for students with disabilities. A student teacher relationship at the school level was an aspect of school culture that had an indirect association with attitude via interpersonal support from teachers. Bunch and Valeo (2004) in their study revealed that attitudes of elementary and secondary students toward peers with disabilities. Mention is made to friendship, congenial behaviour, advocacy, and acceptance of special education or inclusion, as ve of education of students with disabilities. Findings show development of friendships and lower degrees of abusive behaviour in inclusive schools. Though students in both systems were supporter for peers with disabilities, advocacy was more regular in inclusive settings. Artiles, et.al (2006) in their study analyzed two broad strands namely whole school and classroom based research. They define inclusive education and outline various discourse strands in this work. They analyze historical pattern of inclusive education. Lindsey (2007) in his study found qualitative studies of inclusive practice, some of which used non-comparative case studies while other based on respondent judgment. Caldwell (2010) in her study found that benefit of full inclusion reveal the progress the student make socially and academically. Hindrance of inclusion was decline of licensed professionals to assist students. Crabtree and Williams (2011) conducted a study in the Arab world. The study offers an insight into the changing perception towards disability and education in Arab society. Yu et al. (2011) in their study analyzed teacher education for special and inclusive education .It is argued in relation to the culture and perspective of current policy and its execution, teachers' attitudes toward children with special needs learning in Regular classroom. Hansen (2012) in his study state a way to elucidate the limit to inclusion theoretically in the conceptual recognition of inclusion by establishing that exclusion processes are an internal part of inclusion processes and that one cannot explore inclusion without investigating exclusion. This backdrop leads to the following research questions:

Research Questions

1. Is there any difference in the attitude towards inclusive education between the students studying in regular schools and inclusive schools?

2. What are the existing problems of inclusive schools as perceived by the secondary and higher secondary school students?

Method

The study was designed on descriptive research methodology. Survey method of descriptive research methodology was used. Explanatory sequential method was followed. The content of the questionnaire were validated by resource persons. The questionnaire was administered to the students. Data was analyzed by simple statistical techniques such as t-test.

Sample. .The sample comprised of 200 adolescent students including both male and female students. The sample belonged to two groups those who attend Regular schools and those who attend inclusive schools. They are selected from different Regular schools and inclusive schools in Kolkata.

	Without Special Needs		Total
	Regular School	Inclusive School	
Boys	50	50	100
Girls	50	50	100
Total	100	100	200

$H_0$1: There is no significant difference between boys in Regular schools and Inclusive Schools in terms of attitude towards inclusive education.

$H_0$2: There is no significant difference between girls in Regular schools and Inclusive Schools in terms of attitude towards inclusive education.

$H_0$3: There is no significant difference between boys and girls in Regular schools in terms of attitude towards inclusive education.

$H_0$4: There is no significant difference between boys and girls in Inclusive schools in terms of attitude towards inclusive education.

Tools

Information Schedule, Attitude towards Inclusive Education Inventory and an Interview Schedule for students in Inclusive schools constructed by the researcher were used.

Reliability and Validity of the Tool Used.

Content Validity was done by expert rating of items by 3 experts. The Inter-Rater Agreement Model was used (Gregory, 2005) to see the reliability of the raters. The content validity found to be 0.88 and

Reliability was measured by using Cronbach's Alpha and was found to be 0.830.

Findings

Table 1: Mean, Standard deviation and t value of attitude towards inclusive education based on Boys in Regular Schools and Inclusive Schools

	Type of School	N	Mean	Standard Deviation	t-value	Sig (2- tailed)
Boys	Regular School	50	83.12	8.417	6.310	<0.01
	Inclusive school	50	74.50	4.739		

From the above Table1 it can be said that $H_0$1 is rejected. There is a significant difference in their attitude towards inclusive education between Boys in Regular Schools and Inclusive Schools. The difference is significant at 0.01 level of confidence.

Table 2: Mean, Standard deviation and t- value of attitude towards inclusive education based on Girls in Regular Schools and Inclusive Schools

	Type of School	N	Mean	Standard Deviation	t-value	Sig (2- tailed)
Girls	Regular School	50	83.04	10.059	3.176	<0.05
	Inclusive school	50	78.44	1.918		

From the above Table2 it can be said that $H_0 2$ is rejected. There is a significant difference in their attitude towards inclusive education between Girls in Regular Schools and Inclusive Schools. The difference is significant at 0.05 level of confidence.

Table 3.

Mean, Standard deviation and t value of attitude towards inclusive education based on Boys and Girls in Regular Schools Schools.

	Gender	N	Mean	Standard Deviation	t-value	Sig (2- tailed)
Regular Schools	Boys	50	83.12	8.417	.043	NS
	Girls	50	83.04	10.059		

From the above Table3 it can be said that $H_0 3$ is accepted. There is no significant difference between Boys and Girls in Regular Schools.

Table 4.

Mean, Standard deviation and t value of attitude towards inclusive education based on Boys and Girls in Inclusive Schools.

	Gender	N	Mean	Standard Deviation	t-value	Sig (2- tailed)
Inclusive Schools	Boys	50	26.44	2.012	6.785	<0.01
	Girls	50	28.60	1.010		

From the above Table4 it can be said that $H_0 4$ is rejected. There is a significant difference between Boys and girls in Inclusive Schools and the difference is significant at 0.01 level of confidence.

Figure 1.

Graphical Representation of the attitude towards inclusive education scores of Boys and Girls in Regular School and Inclusive School.

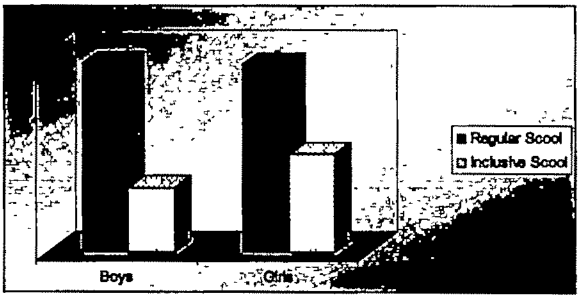
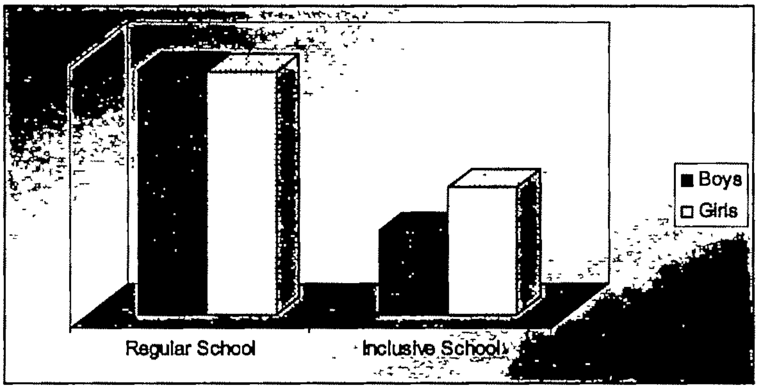


Figure 2.

Graphical Representation of the attitude towards inclusive education scores among Boys and Girls in Regular School and Inclusive School.



What are the contemporary problems of Inclusive Schools according to the students?

The findings are based on interview of students.

1. **Admission:** All the schools in neighbourhood locality do not grant admission to the students with special needs.

2. **Commutation Problem:** Inclusive Schools are far away. Students undergo difficulty in reaching the schools. Lack of proper transport facilities add to the problem.

3. **Infrastructure:** Infrastructure is not properly developed. Students with special needs cannot access all the places in the compound.

4. **Teachers:** There is a feeling that the teachers are not trained adequately to teach the children with special needs.

5. **Classroom:** a) Size - Generally in a normal classroom there are fifty to sixty students. For a teacher it is not possible to pay attention to individual students. It becomes difficult from students point of view to compete with so many students. b) Sense of belongingness - Sometimes children with special needs feel alien in the normal classroom.

6. **Peer Pressure:** There are some students who are very friendly and understanding towards the students with special needs. Some are indifferent, harsh and cruel. Some show pity on the students with special needs.

7. **Lack of Vocational Training:** The general schools do not provide adequate vocational training facilities both for students with and without special needs.

8. Time: Usually children with special needs need more time to learn or to write their paper. They usually do not get extra -time, rather they are rebuked for not being able to complete the work in time.

9. Want Special Care: Most of the students want special care, specially trained teachers, special classroom and special school.

10. Materials and Technology: For the visually impaired the school do not provide Braille slate, Braille, Braille sheets, Braille-Text books, For the hearing impaired students teachers hardly use any visual aids.

11. Arranging Writers: Severe problems arise for arranging Writers assisting children with special needs during examination.

Conclusion

Both boys and girls in Regular School have more positive attitude than boys and girls in Inclusive Schools. Regular school students are very eager to the idea that inclusion should be introduced in all the schools. They are very optimistic about the concept of inclusive education getting implemented. They feel dissatisfied that they are not part of an inclusive school. However the students in Inclusive Schools observe that students with special needs face lot of problems and are deprived of basic infrastructural facilities. Though they want to champion the idea of inclusive education still they feel that their fellow friends with disabilities are going through lot of hardships. Most of the teachers and students are indifferent and are unwilling to help. No special care is given to the special students for example facility of Total Communication method or Sign Language is not there. They do not get enough written or visual instructions. Teachers are not acquainted with the writing in the Braille form. Severe problem arises arranging writers during examinations.

Among boys and girls, apart from Regular School, girls have more positive attitude towards inclusive education in Inclusive School than boys since girls are more adjusting in nature.

According to the students there are both advantages and disadvantages of Inclusive School. Unless and until Inclusive School becomes self sufficient it is very difficult to do away with special Schools.

There are different types of problems faced by children with special needs in the Inclusive schools which need to be dealt with caution.

Educational Implication of the Study

It is increasingly realized that inclusive education is indispensable for the society to progress. It is based on the principle of fundamental right. However one has to overcome the barriers of inclusive setup.

The study provides an overview of attitude of adolescent students studying in regular schools and inclusive schools.

The teacher must have the training for teaching the children with special needs.

Students should be given emotional security that friends and teachers are there for them. A sense of belongingness is a must.

Infrastructure should be made user friendly.

Written and Visual instructions should be provided to hearing impaired. Different press should bring out books on Braille for the visually impaired.

Government should lower the prices of educational materials for the hearing impaired and visually impaired as they are very expensive.

Vocational training should be incorporated within the curriculum for economic liberations.

References

Artiles and Kozleski (2006). Learning in Inclusive Educational Research –Re Mediating Theory and Methods with a Transformation Agenda. In Review of Research in Education ,volume1, 65-108.

Avrandis, E. Norwitch,B.(2002). Teacher' s attitude towards integration/Inclusion: are review of the literature. In European Journal Of Special needs education, Volume 17, Number2, 129-147.

Bunch,G.and Valeo,A. (2004). Student attitudes toward peers with disabilities in inclusive and special education schools in the journal *Disability & Society,*19(1),61-76. DOI: 1080/0968759032000155640

Crabtree, S and Williams,R.(2011). Ethical implication for research into inclusive education in Arab Societies: Reflection on the politization of the personalized research experienced. In International Social Work 8, 2011, Sage publication.

Caldwell, P. (2010) Inclusive Education: Benefit or Hindrance in *Anti Essay.* Retrieved on April 28, 2013, from http://www.antiessays.com/free-essays/104118.html

Eagly, A, H. and Chaiken,S. (1998) Attitude Structure and Function. In Handbook of Social Psychology, ed. D.T. Gilbert, Susan T. Fiske, and G. Lindzey, New York: McGraw-Hill269–322. Retrieved on March 15, 2013, from http://web.pdx.edu/~mev/pdf/PS471_Readings_2012/Eagley_Karau.pdf

Hansen,J.H. (2012) Limits to inclusion in *International Journal of Inclusive Education* Volume 16, Issue 1, pages 89-98. **DOI:** 10.1080/13603111003671632

Lindsey,G(2007) Educational Psychology and the effectiveness of inclusive education/mainstreaming in *British journal of Educational Psychology* ,77(1), 1-24. DOI: 10.1348/000709906X156881

Mcdougall,J, David, J, D., Kinga,G., Millerc,T,L. and Killipd, S. (2004). High School Aged Youth's Attitude Towards their Peer with disabilities: the role of School and student interpersonal Factors in *International Journal of Disability, Development and Education*, 51(3), 287-317. DOI: 10.10801034912042000259242

Sengupta,D. and Biswas, R.(2003). Inclusive of Challenged person in Education. A matter of Right and Challenges. In proceedings, National Seminar University of Kalyani.

Sheshadi,S. (2000), Inclusive education:Prospective of Services. http:www.isec2000.org.uk/abstract/papers_s/shahzadi_1.htm

UNESCO. (1994). *The Salamanca Statement and Framework for action in Special need Education*. Spain:UNESCO. Retrieved on April 28, 2011 from http://www.unescobkk.org/education/inclusive-education/what-is-inclusive education/background/

Yu,L., Su, X., Liu, C. (2011). Issues of teacher education and inclusion in China. In *PROSPECTS*, 1 (41), 355 – 369. DOI: 10.1007/s11125-011-9204-8

Professional Growth of Mathematics Teacher: Looking Back and Looking Ahead

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Abstract

The code of professional Ethics for teachers developed by different bodies has stressed that all teachers should continuously strive to grow professionally. The prime concern of mathematics education is also professional development of teachers along with discussing aim and objectives, pedagogic research and providing solutions. The objective of the present study is to delineate professional growth of mathematics teacher from a wide range of perspective with reference to WB and to examine how the changes from the recent past (1950's) to the present times have taken place and finally to foresee how these changes can be continued, sustained and consolidated in future. The aspects of professional growth, that have been dealt with are i) Classroom based research project ii) Classroom experience based on interaction iii) Visit to innovative centers of Pedagogy and Learning and iv) Developing Unit plans and maintaining reflective journals.

Keywords: - Pedagogy, Professional Mathematics Teacher, Unit plans

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Introduction

Teaching has been socially recognized as a 'profession'. The characteristics of teaching profession in general and mathematics teaching in particular can be focused from different standpoints.

According to John C. Egsgard " A professional teacher of mathematics is one who is a good teacher of mathematics. But who is a good teacher of mathematics? A good teacher of mathematics is one who uses his knowledge and love of mathematics as well as his love and respect for his students to lead these students to enjoy the study of mathematics".

Donald Edge & Ellen Freeman mentioned the following common responsibilities of mathematics teacher:

i) Will accept the challenge of teaching

ii) Should recognize some students' fear or dislike of mathematics.

iii) Will adopt teaching strategies to meet the different learning styles of students

iv) Will respect all students' questions

v) Will keep in mind students' discipline come from teachers' discipline .

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Different Commissions and Committees have also mentioned the need of professional growth of teachers, aim of teaching as well as teaching –learning strategies.

Professional development or growth implies updating, strengthening, sharpening of teaching competencies/ skills and developing awareness about the role and responsibilities to the profession.

So the mathematics teacher, as a professional must have a commendable degree of content knowledge, must be conversant with various tasks like teaching & learning, testing, curricular development, text book writing, preparing remedial as well as enrichment materials, teaching aids etc. Teachers must be committed to their profession, on the one hand and to the welfare and service of the society on the other hand. Keeping this context in mind, the present study examines how far the teacher education programmes in West Bengal perceives the professional development of a mathematics teacher.

The objectives of the present study are

i) To delineate different aspects professional growths of mathematics teacher and pinpoint our discussion on those aspects with special reference to West Bengal
ii) To examine how those areas changes from 1950's and onwards.
iii) To foresee how those changes, particularly the desirable areas can be continued, sustained and consolidated in future.

Aspects of Professional Growth of Mathematics Teacher

Professional growth of mathematics teacher has been operationally defined as global or some total development of the following competencies.

i) Content knowledge in mathematics
ii) Methods and materials
iii) Evaluation techniques and its different phases
iv) Planning and management of Mathematics class
v) Out of school and community activities in mathematics learning.

Evolution of the above competencies through B.ED curriculum have been analyzed in the following time phases namely i) 1950's (fifties) and 1960's (sixties) ii) 1970's (seventies) and 1980's(eighties) iii)1990's and 2000 and iv) 1st decade of 21st century. The classification though a bit artificial / arbitrary, but has been made for convenience of discussion. The present study is based on teaching learning experiences only at secondary level mathematics in West Bengal.

The data were collected from the records of universities teachers' training colleges, Board of Secondary Education and other agencies in West Bengal.

Content Development

1950's and 1960's

Since the formal information in this period is inadequate, the data is collected from interviews with experienced teachers and teacher educators whose ages are more than seventy.

After independence, mathematics curriculum in schools and colleges of teachers' training was based on colonial needs. School mathematics was restricted in three water tight compartments of Arithmetic, Algebra and Geometry. Teachers' competency was judged through presentation of contents using Chalk and Talk and lecture method. There were a few born teachers at that time who could do justice to teaching of mathematics through their traditional /indigenous methods. In most cases teachers gave dry lecture and worked out sums in black board and without much explanation to the 'Whys' and 'Hows'. The teachers mostly advised students to work out sums on simplification, factorization etc through repeated practice. Emphasis was given on memorization of theorems and solution of stereo typed problems with a view to get a 'pass' in examination.

The percentage of trained teachers in schools was very small. Even in training colleges, the courses of teacher training in mathematics was on discussing aims of mathematics teaching and elaborating the features of analytic, synthetic methods without linking to the respective contents. Mostly the discussions were theoretical not practical. Topics like i) History of mathematics and ii) Examination reforms were included in the syllabus. Harbatian techniques i.e. preparation , presentation and application were followed in planning lessons of Mathematics. The weightage on mathematics method papers was about 10% (including theory and practical) of the total marks.

1970's – 1980's

In the seventies the syllabus in mathematics teaching was largely changed. Out of 100 marks in theoretical paper 40 marks was on contents and methods each and 20 marks on preparing Lesson Plan. Moreover, there was 100 marks in practice teaching and about 20 marks in practical activities including preparation of teaching aids. This arrangement shows that there was a shift of emphasis on core contents. Overall weightage on mathematical components in respect of total marks of B.Ed curriculum was 22.5%. This shows that there is a clear shift of emphasis on mathematics teaching as a whole and content teaching in particular.

1990's to 2000

The above approach of teaching mathematics in B.Ed Colleges was followed till 2000. But there large criticism among some teachers and teacher educators regarding such inclusion of contents which were already taught to them in degree colleges and universities. They believed that content should not be taught in isolation, without integrating them with methods and evaluation.

2000- Onwards

In the beginning of the 1st decade of this century, the syllabus was drastically changed. Instead of giving content separately, content- cum- methodology which is an integration of content and methods was introduced in the form of Pedagogical Analysis of mathematics contents. The salient features of theoretical syllabus are inclusion of i) modern psychological theories (like contributions of the Piaget, Brunner, Dienes etc) ii) The guidance /remedial measures of gifted and backward children in mathematics iii) Modern techniques of evaluation iv) Individualized and creative learning.

Further, special weightage has been given on pedagogical analysis of content areas in both theory paper and practical papers. Again stress has also been given on simulated teaching, relating to exercise of special skills in teaching e.g. introducing the lesson, questioning, black board works, closure etc. Additional weightage has been given in the preparation of 'Achievement Test in mathematics.

Methods and Materials

1950's and 1960's

In this period, the methodologies included in the theoretical description of inductive, deductive, analytic and synthetic methods and objectives of teaching mathematics and examination reforms. There was little linkage of these theories to practical problems. Finding the correlation within and outside mathematics was left to the insightful teachers whose number is quite a few. Planning of lesson which followed traditional single-track approach of Herbartian steps was stereotyped and non-interactive.

1970's and 1980's

The pattern was more or less the same. The concept of correlation between content and methods was discussed and only a few links between the contents and methods were shown in lesson planning. The number of such links was small as a result of which a few such linkages were given in lesson planning and practice teaching. In this period, contents part was examined by setting problems from different content areas of school mathematics up to XIIth standrad. Different types of tests like objective, short answer and long answer were discussed and conclusion was drawn in preparing tests with a judicious mixture of such tests.

Such approach helped the curriculum planner to design question paper in schools.

1990's and 2000

The above approaches were by and large followed in 90's also. Additionally, stress was given for guidance to the gifted as well as backward children. History of mathematics was also an item of discussion in the classroom of training colleges.

2000- Onwards

Drastic change occurred in the professional course of mathematics teaching as per NCERT & NCTE prescription. The courses were designed with the inclusion of content cum methodology in teaching. In fact modern contents /topics are included which are relatively new in teacher training. Such discussion is being aimed to learn new contents as well as their methods of teaching. Some traditional topics which are included in school mathematics are taught with modern methodologies. Simulated teachings, development of teaching skills are being emphasized. Student teachers are encouraged to use computer Assisted Teaching through PowerPoint presentation and transparencies in Overhead projector . The spread of such multimedia approach of teaching depends, however on the availability of materials , competent teachers and equipments .

Evaluation

1950's and 1960's

The questions were mostly long answer type. Marking scheme in all cases was to give full marks or Zero. Students were judged mainly on the basis of what they do not know, instead of what they do know. The merit of objective tests was discussed but not given proper emphasis.

1970's and 1980's

Discussion on reforms of examination was made in greater depth and details. Objective tests were also given in lesson planning and also at the application stage of teaching.

1990's and 2000

Almost the same procedure as mentioned above was followed. Student teacher was asked to prepare objective, short answer and long answer type questions . In mathematical exhibitions, demonstration lesson and even in practice teaching, students are asked to use such tests in order to assess their background knowledge of students. The expected outcomes of students are again judged through questions involving knowledge, skill, understanding & application types.

2000- Onwards

The approach of constructivist teaching and evaluation is accepted by teachers and educators. The assessment was through Unit teaching, classroom -interaction, oral tests in the classrooms, Comprehension test are now in vogue in evaluation process in mathematics. Such approaches of evaluation are being given greater stress in recent time.

Students are exposed to situation of learning through assessment and use of self learning materials. Open ended assessments are also exposed to student's teachers. At present students teacher are being taught to construct achievement test. Separate weightage on construction of 'Achievement Test' helps them to learn the techniques of assessment in a better way.

Teacher Training

1950's and 1960's

The topics of the syllabus were taught by teacher in an isolated manner. Students were asked to answer questions in a systematic way.

The courses of studies were mainly on educational & psychological theories, history of education, methods of teaching and school organization. Students were to select three method papers and an optional paper. It seems that much stress on theoretical aspect was given.

Such formulation of syllabus was severely criticized by the teacher and teacher educator.

A realistic and useful curriculum was the demand of the society at that time.

1970's and 1980's

The four papers of the past era were retained but the topics of those papers were designed in a more pragmatic way. Some obsolete topics in those papers were deleted. In each of those topics relevant needs of the society were reflected. In question papers, discussion of the topics together with relevancy in realistic situation were asked from the students.

Consequently teaching in the classrooms was followed in the same way. In method papers, contents were also given importance. The total weight-age of mathematics in B.ED curriculum was about 22%.

1990's and 2000

All most same pattern of syllabus was followed. But there was criticism on teacher education in various seminars, symposia and conferences at state and national levels. The total weight-age of mathematics courses was the same as in the earlier stage (22%).

2000-Onwards

Instead of giving separate weight-age on theory and content in mathematics, the syllabus of mathematics has been grouped in different categories.

Marks allotted to each of these components are also given below :

Component-wise distribution of marks

Component	Paper	Name	Marks		
Theoretical	Paper IV/ V	Pedagogical Analysis of the contents & Methods	Pedagogical Analysis	60	100
			Methods of Teaching	40	
Practical	Paper –VII	Simulated Teaching			50
	Paper -VIII	Teaching in Classroom			50
	Paper –IX	Achievement Test			20
	Paper –X	Pedagogical analysis of contents			30
		Practice lesson plan on Mathematics Teaching aids used during practice teaching			20 05
		Community outreach activities (may cover mathematical activities)			10
Total Marks					285
Weightage					28.5 Per cent

The above table shows a clear and positive shift of emphasis in mathematics teaching. This arrangement of teachers' training is based on acquainting the teachers with contemporary theories of learning of mathematics, modern techniques of evaluation & curriculum planning and programmes of community activities. It is envisaged that the present arrangement would provide a all round development of mathematics teaching in the process of professional growth of mathematics teacher.

The planning and management of curriculum in B.Ed Course were mainly done by experts of curriculum planners in the Universities. In 1970's on wards, more teacher educators from constituents teachers' training college were involved. 1980-90's – In service training courses in mathematics teaching in schools were and are being organized by boards of secondary education with the help of teachers in schools and teacher educators in training colleges.

Out of School Activities

1950's and 1960's

There was no such item relating to out of school activities in Mathematics. However, students were allowed to prepare charts, models etc in mathematics in their practice teaching.

1970's and 1980's

In the annual function, models, charts were presented and the students were asked to explain. Activities like discussion on puzzles and riddles, charts on history of mathematics and life sketches of mathematician, tan-grams and the like though not properly in the syllabus are sometime discussed in the classroom, or in wall magazine or college magazine.

2000-Onwards

The above practices are now being followed also in collaboration with mathematics association of mathematics teachers, other colleges and university departments. Quiz & Extempore talk competition were conducted. Such collaborative programme in mathematics learning and teaching helps student teachers to 'construct' mathematical concepts in a realistic way.

IGNOU provides B.ED programme through ODL system where in mathematics method paper 70% marks covers Nature, Objectives and Approaches of teaching Arithmetic & Commercial mathematics, Algebra & Computing and Geometry & Trigonometry etc and 30% in Assignment. Both the theory and final teaching are awarded in Grades.

From the academic session 2013, University of Calcutta has revised the B.ED curriculum in the light of National Curriculum Framework on Teacher Education 2009, NCTE draft curriculum 2010, NCTE Model curriculum 2011 and NAAC guidelines for Teacher Education Programme.

Mathematics is included in Area B (curriculum and pedagogy). The curricular aspect includes nature of mathematics and knowledge, understanding school curriculum, critical engagement with principles of teaching, epistemological issues. So knowledge of mathematics and understanding school curriculum are considered as essential. It has also been emphasized in the framework that 'to engage trainees with theory along with field experiences to help them to view knowledge not as external to the learner to the learner but as something that is actively constructed during learning, integrate academic knowledge and professional knowledge is to be considered as unique content of B.ED curriculum. Out of total 1400 marks approximately 335 marks are allotted for a method subject like Mathematics. Out of 335 marks 100 are kept for theory covering only a small portion of Pedagogic content knowledge. The remaining 235 marks are assigned for Practicum of Mathematics method subject. The distribution of marks for each method paper like Mathematics is as follows:

Method Paper

(Mathematics) F.M. = 335

Semester –I	**F.M.- 175**	**F.M. -160**	**Semester-II**
Theory -50 **30 periods are Assigned for Pedagogic content Knowledge**	**Practicum -125** **-Simulated Teaching (3 micro teaching skills integrated lesson)** **- Mini teaching (using any model of teaching/ computer assisted presentation)** **- Initiation of a project** **- Preparing teaching Learning materials (Pedagogical analysis of a Unit)**	**Theory =50** **30 periods no content knowledge**	**Practicum =110** **Teaching learning material** **- Teaching practice** **-Maintaining of journal**

Conclusion

In the foregoing sections, the courses of teacher education in the past decades since independence have been discussed. Each of the five components has its own history at different stages. Looking back to all such historical facts and considering the present practices, we can envisage some emergent trends and per haves, get a futuristic view of professional growth of teachers in mathematics. First of all, it is to be observed that, since mass education is given greater importance, mathematics needed for the majority is demanded by a large section of the society. Thus, mathematics for commoners is being needed by all. Courses of mathematics education in teacher education are following the above trends. Lively methods like activity approach, open ended learning, self-learning, interactive lesson and the like are being experimented. Such experiments in the recent decades are to be strengthened encouraged and accelerated in future. The feedback received from such practices is likely to remove pitfalls and errors. Teacher training courses in mathematics are being changed now and also will be changed in future relevance of mathematics teaching to the society should be the key factor of all such changes. Methods and materials are to designed accordingly by the teacher educators. Effectiveness of mathematics teaching of teachers will increase if the teaching skill of teachers is increased. Teachers are to be provided conducive policies, incentives and necessary training. A network of co-curricular and out of school activities consisting of teacher educators of mathematics other lovers of mathematics in association of mathematics teacher and other educational institution which has already being built, is to be further developed , fostered and encouraged. The focus of all such activities lies in the initiatives of teachers. The teacher is to get interest and joy which can help the professional growth in a big way.

References

Chel, M.M (2013). *Understanding Theory and Practice of Mathematics Curriculum at class IX-X Level of West Bengal Board of Secondary Education,* Presented at National Seminar on " Effectiveness of Mathematics curriculum of class IX-X in the perspective of achievement of Higher Mathematics . Held at Vidyasagar Teachers' Training College, Midnapore 15-16th March,2013

Chel, M.M. (2013). *Integration of Mathematical and Pedagogical contents in the B.ED Curriculum : Successful and unsuccessful attempts in* Journal of Pedagogical and Development Studies in Mathematics, 23rd Issue , Pp 22-28

Clarke, D (1984). 'Secondary Mathematics Teaching: Towards a critical Appraisal of current practice in Vinculum, Vol 21, No.4

Howson, A.G (1987[Ed]). *Challenges and responses in mathematics,* U.K.: Cambridge University Press.

J.Long M. J. (1988). *Educating Mathematics Teacher Leaders* in Malone J, Burkhardt H. and Reible C. (Ed.) *The Mathematics Curriculum : Towards the year 2000,* Western Australia: International congress on Mathematical Education Budapest, Hungary, Pp 369-376

J.N Kapur (1995). *Relevant Mathematics Education Vol-V,* New Delhi: Mathematical Sciences Trust Society.

Mayer, E, Silver , A and Davis, Bel (1983). *Some New Directions for Research in Mathematics Education* in Marilyn Z W , Thomas G,(ed) proceedings of the Fourth International congress on Mathematical Education, Berkeley, California, U.S.A

National Curriculum Framework for Teacher Education -2009, NCTE, New Delhi

Pathirana K.P.S.D (2007). *Lasting Reminiscences: A Project to Enhance Mathematics Learning* in *Castme Journal Vol 27 No.1,* U.K.: University of Winchester, Pp 26-34

Ping –Tung Chang (1988). *21^{ST} Century Mathematics : Teacher Training and Remediation* in Malone J, Burkhardt H. and Reible C. (Ed.) *The Mathematics Curriculum : Towards the year 2000,* Western Australia: International congress on Mathematical Education Budapest, Hungary, Pp 363-368

Reston, V.A(1991). *Professional standards for Teaching Mathematics* in Journal of National Council of Teachers of Mathematics Vol 19 No.5 Pp 393-407

Revised B.ED Curriculum, University of Calcutta vide notification no. CSR/13/13 dt. 1^{st} July,2013.

Sar, S (2011). *Mathematical Education and its different Aspects,* News Bulletin Calcutta Mathematical Society. Pp 4-6

Sing. A. et al. (2007). *Teacher Training: A reflective perspective,* New Delhi: Kanishka Publishers and Distributors.

Sinha, D (2012). *Learning and Teaching Mathematics: A changing Scenario in* Indian Journal of Mathematics Teaching Vol.38 No. 1&2, Pp 27-29

Vishal A and Bugrahan Y (2011). *Teachers' Conceptions of Interesting, Effective and Engaging Teaching : A case study of four college professors in* Proceedings of episteme -4 International Conference to Review Research on Science , Technology and Mathematics Education, Mumbai: Hori Bhabha Centre for Science Education TIFR,. Pp 263-267

Self- Concept: A Determinant of Academic Stress and Perceived Parenting

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Abstract

The present investigation was undertaken to understand the relationship between Academic Stress and Perceived parenting on the Self concept of the adolescents. The study has its roots in a highly competitive examination system that focuses on marks rather than on an ability to think and grow. The pressure to perform and make a career begins early gaining momentum in the teenage years, with parents adding their bit on how they evaluate themselves. It has therefore been assumed for the present purpose that the level of Academic Stress is dependent on several psychosocial factors. Subsequently the objective of the present study is to find out the relation between Perceived Parenting and Academic Stress and its impact on the Self Concept of the adolescents and vice-versa. A sample of 302 adolescents from kolkata aged 14 – 18 years participated in the study. They were selected through incidental purposive sampling technique. The tools used were an Academic Stress Questionnaire developed by the researchers and a standardized test for measuring Perceived Parenting and Self-Concept. The findings of the study reveal an inverse relationship between Self Concept and Academic Stress. Perceived parenting was found to have a direct and positive relationship with the Self Concept of the adolescents. No significant statistical difference in relation to gender was found in the level of Self Concept, Academic Stress and Perceived Parenting of the Adolescents. It is concluded that Self-Concept plays a significant role in the level of Academic Stress and in their perception about parenting. The study has strong implications on the effects of parenting on the self-image of the adolescents.

Key- Words : Academic Stress, Perceived Parenting, Self-Concept, Adolescents.

Today's adolescent is living both in the best of times and in the worst of time in India. They possess longer life expectancies and luxuries inconceivable less than a century ago with television, computers, satellites, air travel etc. However the temptations and hazards of the adult world descend on them so early that too often they are not cognitively and emotionally ready to handle them effectively. Every stable society transmits values from one generation to the other, but today we adults are very concerned about the values being communicated to Indian adolescents.

In many ways today's adolescent inhabit in an environment that is less stable than that several decades ago. High divorce rates, pregnancy rates, suicide rates, drug use, increased

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[℘] Professor, Department of Education, University of Calcutta, West Bengal geographic mobility of families contribute to this lack of stability. (Santrock, 2007). Yet growing up has never been easy. The developmental tasks faced by todays adolescents are no different from those faced by adolescents fifty years ago. Adolescence is a time of evaluation, decision making, commitment and finding a place in the world than being a time of rebellion, crisis and deviance. (Santrock, 2007). Adolescents are a heterogeneous group (Cohen & others, 2003; Wigfield & others, 2006), where most of them successfully negotiate the lengthy path to adult maturity, but a large minority do not. Socio-economic, ethnic, cultural, gender, age and lifestyle differences influence the developmental trajectory of every adolescent. (Spencer,2006).

Contexts are the social settings in which development occurs, play important roles in adolescent development. These contexts include families, peers, schools and culture. (Santrock, 2007). These social contexts also contribute to the development of an adolescent's self-esteem. (Dusek & Mc Intyre, 2003; Harter, 2006; Turnage, 2004). Studies have shown that increase in family cohesiveness increases adolescent cohesiveness over-time. (Baldwin & Hoffman, 2002), where family cohesiveness was based on the amount of time the family spent together, the quality of their communication and the extent to which the adolescent was involved in family decision making. (Santrock, 2007). The marital relations, parenting and adolescent behavior can both have direct and effects on each other. This means that there is reciprocal socialization within the members of the family. Marital satisfaction is often related to good parenting that ultimately results in healthier children and adolescents, (Grych, 2002). Close relationship with parents function as models or templates that influence the construction of new relationships in future. (Gjerde, Block & Block, 1991). Adolescents with secure attachment histories have been found to be more socially competent, that included providing the necessary support for effectively engaging in the peer world in turn providing foundation for more extensive complex peer relationships. (Santrock, 2007).

During the course of puberty the expectations of adolescents and their parents often seem to be violated as the teenagers change dramatically. Parental are often seem to clamp down and put more pressure on the adolescents to confirm to parental standards. But since the journey from childhood to adulthood is a long journey with many hills and valleys they do not confirm to adult standards immediately. Neither high intensity demands for compliance nor an unwillingness to monitor and be involved in the adolescent's development is likely to be a wise parenting strategy. Parents who recognize that adolescents take a long time "to get it right" usually deal more competently and calmly with adolescent transgressions than do parents who demand immediate conformity to parental standards. Whereas there are others who virtually do the opposite and let them do as they please in a permissive manner. Parents sometimes may perceive that all conflict with their adolescent is bad, but studies have shown that a moderate degree of conflict with parents in adolescence is not only inevitable but may also serve a positive developmental function. (Santrock, 2007).

The way parents feel about themselves their situations and their children goes hand in hand with the way parents behave towards their children. The security of attachment is very important for the development of healthy, adaptive emotions and social behaviours, parental sensitivity and responsiveness are important components of the attachment relationships along with children's attributes. (Kirby, 2011). Adolescents carry with them a sense of who they are and what makes them different from everyone else. The self-understanding in adolescence is not completely internal in nature rather a social-cognitive construction. (Bergman, 2004; hare, 2004; Harter, 2006; Santrock, 2007), which means that adolescents developing cognitive capacities interact with their socio-cultural experiences to influence their self-understanding. This development of self-understanding does not take place in social isolation. They turn to their parents, friends for support and self- clarifications. Peers to adolescents are the reflected self-appraisals, the social mirror into which adolescents anxiously stare. (Rosenberg, 1979).

Fluctuations in self-esteem during adolescents were related to life events and family cohesiveness. (Baldwin & Hoffmen, 2002). Youth who find it too difficult to move between worlds can become alienated from their school family or peers. However those who are able to navigate effectively between different worlds can develop bicultural and multicultural selves and become culture brokers for others.(Santrock, 2007). The high self-esteem may refer to accurate justified perceptions of one's worth as a person and one's successes and accomplishments. On the other hand low self-esteem can develop into other problems. (Usher & Others, 2000; Zimmerman, Copeland & Shope, 1997). It has been implicated that depression, suicide, anorexia nervosa, delinquency and other adjustment problems. (Fenzel, 1994). The seriousness of the problem depends not only on the nature of the adolescent's low self-esteem but on other conditions as well, like difficult school transitions , troubled family life or other stressful events that can intensify an adolescents problem. (Santrock, 2007). High narcissism, low empathy and being sensitive to rejection combined with low self-esteem were linked to adolescents' violent thoughts. (Harter & Mccarley, 2004).

Rapid global change is altering the experience of adolescents, presenting new opportunities and challenges to young people's health and well-being. Adolescents' experiences around the world may differ depending upon their gender, family, schools and peers. (Brown & Larson,2002, Larson & Wilson, 2004). Changes driven by technological opportunities have a huge impact on economy, community as well as on families. We have rocketed into a new way of life, and these changes have had powerful effects on the experience of growing up. Today's children are in a very difficult situation than their parents or grandparents. The present world is the world of achievements is also a world of stress, and has therefore rightly been called the "Age of Anxiety and Stress". (Pestonjee, 2009). Youth today are living in an increasingly anxiety ridden atmosphere. (Nalini, 1997). They live in a world when nothing seems to be guaranteed with certainty and at the same time are expected to perform at every font, the main being academics. (Bhansali & trivedi, 2008). Most of the problems concentrated on academic anxiety are followed by anxiety regarding their future. Academic stress was caused due to the examination system, burden of homework and attitudes of parents and teachers. A generation where everybody lives breathes and eats competition, where they are constantly encouraged to compare themselves with peers. Parental pressure is also responsible to create stress as the emphasis is not given to acquire knowledge but to excel. When the adolescents are unable to meet their parent's expectations, it is than that physical, Mental Stress, frustration, aggression, rejection, depression, undesirable behaviors and suicide takes place. Peer pressure, pressure from family and media play a big role in building perceptions of adolescents. (Sun, 2009). Suicide is on the rise amongst adolescents because of their pressure that is just killing. Statistics from the National Crime records Bureau (NCRM) report has revealed that West Bengal has for the third consecutive year earned the dubious distinction of being the state with the largest number of students committing suicide. The state is however ill-prepared to tackle this menace. (Dasgupta, 2010).

It is under such a backdrop that the objective of the present study was set to understand the relationship between Academic stress and perceived parenting with the Self-concept of the adolescents. In a country like India which is the home to 327 million young people in the age group of 10-24 (WHO, 2007), where every fifth person is an adolescent, the responsibility lies on us citizens for developing this vast human resource in the best possible ways and channelize their unlimited energy, vitality, the strong urge to experiment and create a better world to live in.

Design of the study

Participants

The study had 302 participants from Indian urban adolescents (150 girls and 152 boys) of junior secondary and senior secondary English medium school students. The data was collected through incidental purposive sampling technique. The constitution of the participants consisted of multi-lingual and multi-religious teens having mother tongue as Bengali and Hindi. The mean age of the participants was 16 ranging from 14-18 year olds. The particular group was selected for the study as it was assumed that children studying in standard schools and average to good schools was actually prone to academic stress, being located in one of India's leading metropolitan city. It was also assumed that the problem was basically an urban social problem, as the parents of the adolescents came from varied educational and occupational background where their least minimum qualification was found to be university graduates. Their occupation ranged from IT professionals, Scientists, Doctors, teachers, bank employees to Businessman etc. With such a background the adolescents were expected to incur high expectation and deliver high competence level. Such a situation ultimately affecting their Perceived parenting in this highly competitive examination system that focuses on marks than on an ability to think and grow. Moreover this particular age group faced the board exams of grades X and XII together with entrance exam to various esteemed institutions. Therefore it was felt that the pressure to excel and to standout for future financial gains in the form of a flourishing sophisticated career was mainly an urban phenomena than a rural one.

Instruments

The instruments used included a Perceived Parenting scale that had eight models of parenting as designed by Bharadwaj, Sharma & Garg(1998). The test can be studied as the role of mothering and fathering separately as well as parenting as a whole. The final form of the scale has 40 items related to the eight different models of parenting and are spread in a meaningful manner. The reliability and validity coefficients were found to be ranging from 0.54 - 0.79 and 0.36 - 0.62 respectively across eight models of parenting studied. Scoring was done quantitatively on a five point scale as suggested by Likert.

An Academic Stress questionnaire was used which was constructed by the researcher in order to measure the academic burden beyond the individuals' means to satisfy. This feeling of stress surfaces due to curricular, co-curricular activities, homework and regular class tests coupled with deadlines that the adolescent have to comply with, making their daily routine airtight with no free time to be spent as they wish. The final questionnaire stood to have 33 items with five dimensions. The mean and standard deviation of the test was found to be 100.6 and 17.13.

A Self-Concept questionnaire was used to measure the self-concept of adolescents. The questionnaire was constructed by R.K. Saraswat which has six dimensions namely physical, social, temperamental, educational, moral and intellectual. The test has 48 items with 8 items falling under each dimension. The scale has high internal consistency. The reliability was found to be 0.91 for the total self-concept measure. The very questionnaire was used as it was developed to be administered within the age range of 14-18 years to both boys and girls of classes IX, X, XI and XII.

Results

Table 1: Table of Correlation

	(AS)	**(PP)**
(AS)		
(PP) X3	-0.013	P = 0.819
SC(Y)	-0.152	0.374
	P=0.008	P=0.000

AS - Academic Stress ; PP - Perceived Parenting ; SC - Self Concept

Table 2: Significance of Difference between the means : gender wise and grade wise

CLASS	IX		X		XI		XII	
	Male	Female	Male	Female	Male	Female	Male	Female
AS	97.8	93.4	104.6	100.7	100.8	97.8	103.1	106.7
P value	0.290		0.345		0.411		0.314	
PP	633	738	715	679	733	688	731	697
P value	0.001		0.299		0.155		0.311	
SC	172.4	170.2	177.2	173.9	165.8	163.7	165.7	164.8
P value	0.566		0.309		0.500		0.789	

AS- Academic Stress, SC-Self-concept, PP-Perceived Parenting

Discussion

Findings of the current study reflect an inverse relationship between adolescents' self-concept and the level of Academic stress. This implies that the stronger the self-esteem of the adolescents the lower the level of Academic Stress faced by them. The study also found out that the higher the Perceived Parenting Scores the stronger are the Self-concepts in the adolescents. Self-esteem is an important component of Self-Concept that represents how we feel about or value ourselves. The psychological well-being and quality of adjustment of the adolescent is the result of his /her parental interaction. The quality and quantity of communication between the parents and their teens have been thought to be influenced by many factors, and one such well researched is the parenting style. The participants of the study had high Self-concept and Perceived parenting scores, which could mean that good or positive parenting helped the adolescents to communicate effectively, take control of their lives and in doing so enhanced their Self- concept. (Mitra, 2007).

The study also revealed that as the level of self-concept of the adolescent becomes high the level of academic stress goes down. This is so as the self-esteem protects the individual from distress, it helps the person to bounce back in terms of highly stressful or academically loaded situations. This can become possible only when the individual figures out ways to overcome the problem instead of avoiding them. Thus we see that good parenting is the foundation of a house made of strong personality with a roof of high self-concept that protects the individual from Tsunamis and hurricanes in the form of stress. (Mitra, 2007).

The findings of the study showed that there is insignificant statistical difference in relation to gender in the level of self-concept, academic stress and perceived parenting of the adolescents. This implies that children normally think and feel about themselves the way they are made to feel and think from their childhood days. In this aspect a lot depends upon how the "significant others' in their lives think about them and interact with them. The social setting in the metropolitan cities of India is based on equilibrium, which establishes an equal dominance of boys and girls in many spheres during the early years of life. In an urban setting the girl child gets equal opportunity regarding studies, exposure to games etc than an adolescent boy. Although some marginal differences may exist between the two, but after statistical analysis the difference just vanishes.

This is in confirmation with several studies where the self-concept of the adolescents was found to be very high irrespective of gender and age. (Block & Robbins, 1993). The higher the perceived level of parental warmth, the higher the self-concept. (Parish & McClusky, 1992). It was also found that students with high self-esteem are less stressed than those with low self-esteem. This may be due to the fostering of social resources and effective coping when self-esteem is high. (Abouserie, 1994). One should learn to relax and study hard, not panic and do well. The stress should be given on preparation and not on pressure. (Anupama, 2004). Parents in the cosmopolitan cities view both the boy and the girl child as equal and strive to achieve the expectations of their wards. Each one is taught to be self-sufficient. This is why the adolescents of either gender found no differences in their view of parenting.

India's fast changing economy and social realities have placed this critical age group at cultural crossroads of traditional socialization and non-traditional cultural and economic imagery. For the minority of adolescents who suffer a serious erosion in self-esteem the task of coping with present realities and future possibilities may indeed represent a crisis- one that even triggers suicidal thoughts. Most adolescents see the process of identity as not an aversive, disruptive crisis but as a normal and a necessary part of life. (Shaffer, 1988). The exposure to different and at times alien cultural patterns and models within a traditional environment puts the adolescent group in a unique situation that requires apical skills to guide and manage their growth and development. (Bezbaruah, 2000).

Although good parenting plays a very important part in the process of developing the self-concept of the adolescent and keeping stress at bay, we must also not forget that adolescent's education should lay emphasis on life skills development in order to gear them up to meet the challenges and optimize their opportunities to live a healthier, happier, productive and a fulfilling life.

References

Abouserie, R. (1994). Sources of levels of stress in relation to Locus of control and self-esteem of university students. *Educational Psychology, 14* , 323-330.

Baldwin, S., & Hoffman<J.P. (2002). The Dynamics of Self-esteem. A Growth Curve Analysis. *Journal of Youth and adolescence,31* , 101-113.

Bergman, R. (2004). Identity as Motivation: Toward a theory of Moral self. In D. Lapsley, & D. (. narvez, *moral development, self-identity.* mahwah, NewJersey: Erlbaum.

Bezbaruah, S. (2000). *Adolescence in India: A Profile.*

Bhansali, R., & triovedi, K. (2008). Is Academic anxiety gender specific: A comparative study. *Journal of Social science.17(1):* , 1-3.

Block, J., & robbins, R. (1993). A Longitudinal Study of Consistency & change of self Esteem from early adolescence to early adulthood. *Child development, 64* , 909-923.

Brown, B., & Larson, R. (2002). The kaleidoscope of Adolescence : Experiences of the world's youth at the beginning of the 21st century. In B. Brown, R. Larson, & T. (. saraswathi, *the world's youth.* New York: Cambridge Press.

Cohen, A., & canter, A. (2003). *Bullying:Facts for schools and parents.* Washington DC: National Association od school Psychologists centre.

Dasgupta, A. (2010). *Dying Young* . Kolkata: India Today.

(2009). *Family Peer presssure causing adolescent suicides.* New Delhi, India.: Sun.

Fenzel, L. (1994). A Prospective Study of the effects of Chronic strains on early adolescent self-worth and school adjustment. *Meeting of the Society for Research on Adolescence* . San Diego.

Gjerda, P., Block, J., & Block, J. (1991). The Pre-School family context of 18 year olds with Depressive Symptoms. A prospective study. *Journal of Research on adolescence.,1* , 63-92.

Grych, J. (2002). Marital Relationships and parenting. In M. Bronstein, *handbook of oarenting (2nd ed).* Mahwah; New Jersey: Erlbaum.

Haree, R. (2004). the Social Construction of persons. In C. Lightfoot, C. Lalonde, & M. (. Chandler, *Changing Conceptions of Psychological Life* . Mahwah, Newjersey: Erlbaum.

Harter, S. (2006). the development of Self-representations on childhood and adolescence. In W. damon, & R. (. Lerner, *handbook of child psychology 6th ed.* New York: Wiley.

Harter, S., & Mccarley, K. (2004). Is there a dark side to high Self-esteem leading to adolescent violence? *Meeting of APA.* Honolulu, Hawaii.

Kirby, D. (2011). *Parenting Stress.* Byward Books Pvt Ltd.

Larson, R., & Wilson, S. (2004). Adolescence across place and time : Globalization and the changing pathways to adulthood. In R. Lerner, & L. (. Steinberg, *Handbook of adolescent Psychology.* New York: Wiley.

Mitra, M. (2007). The Role of test Anxiety Academic Overload and Parenting Style on the Self-concept of adolescence. *PhD Thesis* . Kolkata, West Bengal, India: Calcutta University.

ncrb.com. (2011). Retrieved Sept 15th, 2011, from National Crime reports Bureau: http:/ /www.ncrb.com

Parish, T., & McClusky, J. (1992). The relationship between Parenting Styles and Young Adults Self-concepts & Evaluation of parents,. *Adolescence, Winter, Vol :27. Issue:108* .

Pestonjee, D. (2009). *Stress and Coping. the indian Experience.2nd Ed.* Sage Publications Ltd.

Rosenberg, M. (. (1979). *Conceiving the Self.* New York: Basic Books.

Santrock, J. (2007). *Adolescence 11th Edition.* Tata Mc Graw-Hill Publishing company limited.

Shaffer, W. (1998). *Stress Management for wellness , #rd ed.* New York: Hartcourt Brace College Publishers.

Spencer, M. (2006). Phenomenology and ecological systems Theory : development of diverse groups. In W. Damon, & R. Lerner, *handbook of child Psychology 6th ed.* New York: Wiley.

Trivedi, R. B. (2008).

Turnage, B. (2004). African-American mother-daughter relationships mediating daughters self-esteem. *Child and Adolescence Socialwork journal, 21* , 155-173.

Usher, B., Zahn-Waxler, C., Finch, C., & Gunlicks, M. (2000). The relation between Global Self-esteem perceived competence and risk for psychopathology in adolescence. *Meeting of the Social research on adolescence,Chicago.*

Wigfield, A., Eccles, J., Schiefele, U., Roser, R., & davis-Kean, P. (2006). development of achievement motivation. In W. Damon, & R. (. Lerner, *handbook of Child Psychology. 6th ed.* New York: Wiley.

Zimmerman, M., Copeland, L., & Shope, J. (1997). A Longitudinal Study of Self-Esteem: Implications for Adolescent development. *Meeting of the Society for research in child Development.* Washington D.C.

The Extent and Efficacy of Use of ICT: Belief of Teacher Educators and School Teacher

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Abstract

The technology-based global economy poses serious challenges to various countries as national economies become increasingly internationalized, with the increasing flow of information, technology, products, capital and manpower between nations. This new economic environment is producing dramatic shifts in the socio-political and economic structure, shifting the economic base from the industry to information and altering the nature of work and skills required in most professions. Such trends pose challenges to the educational system to prepare students with the knowledge and skill needed to thrive in the dynamic environment of continuous technological change and accelerating growth in knowledge production. Education is at the confluence of powerful and rapidly shifting educational, technological and political forces. The new generation of students are born into a more technologically oriented environment of digital text and context; to make the curriculum more relevant to them it is imperative that teachers need open up to the fruitful application of ICT in the modern classroom. The teacher education colleges have a pivotal role to play in this regard. The level of technical proficiency and how much the teacher educators and trainee teachers realize the efficacy of the use of ICT in class remains the crux of the present study. The findings reveal significant differences in belief of teacher educators and school teachers regarding the software usage in class-room teaching, but an overall belief in the efficacy of ICT for enhanced teaching-learning praxis.

Key terms: Information and communication technology (ICT), belief, efficacy, effectiveness, teacher educator, school teachers.

Introduction

Debate about the role of technology in education covers issues ranging from optimism about the opportunities and collaboration of students and teachers through computer and internet use, to pessimism about future education with the advent of these new technologies. However, researches from socio-cultural perspectives perceive ICT as essential for forging students' identities in a rapidly changing youth culture which necessitates the school teachers and teacher educators in using ICT for a wholesome learning experience that the modern generation can relate to. Education is necessary to consolidate any nation's developmental process. The role of the professionally trained teacher is of supreme significance here, since it is the teacher who translates policy into action at the classroom level, concretize the curriculum and realize educational decisions. The importance of teacher training thus remains an area of immense importance. It is in recognition of the relationship between teacher quality and the quality of instructional delivery that the role of ICT emerges as a significant one in the present context. Today's students inhabit social, cultural and literary environments rich in digital text. If one believes in a social constructivist model of education, then the teachers must explore the students' digital involvement, utilizing that for increasing motivation and success.

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Education is at the confluence of powerful and rapidly shifting educational, technological and political forces. The UNESCO World Education Report (1998) reveals that the new technologies challenge traditional concepts of both teaching and learning and, by reconfiguring how teachers and students gain access to knowledge, have the potential to transform teaching and learning processes. According to the 1998 report titled "Teachers and Teaching in a Changing World", the new information and communication technologies have radical implications:

New possibilities are emerging which already show a powerful impact on meeting basic learning needs and it is clear that the educational potential of these new possibilities has barely been tapped. These new possibilities exist largely as the result of two converging forces, both recent bi-products of the general development process. First the quantity of information available in the world – much of it relevant to survival and basic well being – is exponentially greater than that available only a few years ago, and the rate of its growth is accelerating. A synergistic effect occurs when important information is coupled with the second modern advance – the new capacity to communicate among the people of the world. The opportunity exists to harness this force and use it positively, consciously and with design in order to contribute to meeting defined learning needs (UNESCO, 1998; p.19).

ICT provides an array of powerful tools that may help in transforming the present isolated, teacher-centered and text-bound classrooms into rich, student-focused, interactive knowledge environments.

The new views of the learning process and the shift to student-centered learning with the help of ICT have emerged based on cognitive learning research and the confluence of several theories that have informed our understanding of the nature and context of learning. Some of the most prominent theories are socio-cultural theories based on Vygotsky's inter-subjectiveness and Zone of Proximal Development, constructivism, self-regulated learning, situated cognition, cognitive apprenticeship, problem-based learning developed by Cognition and Technology Group at Vanderbilt, cognitive flexibility theory and distributed cognition. Each of these theories is based on the assumption that learners are active agents, purposefully seeking and constructing knowledge within a meaningful context. With this in mind, adoption of ICT in education for professional development and organizational change becomes important. The growth and development of teacher education, facilitated through the adoption and promotion of ICT becomes evident, as the Society for Information Technology and Teacher Education identifies certain basic principles for development of effective ICT based teacher education (SITE, 2002):

(a)Technology should be infused into the entire teacher education program, that is, throughout their teacher education experience, trainees should learn about and with technology, how to incorporate technology into their own classroom teaching. Restricting technology experiences to a single area/course will not prepare trainees to be technology-using teachers

(b)Technology should be introduced in context and a specific professional literacy involves learning to use technology to foster the educational growth of students. Teacher educators must act as the role models, showing how ICT is used in day to day teaching and allowing the trainees scope for exploring innovative and creative uses of technology in their own teaching.

(c)Students should experience innovative technology-supported learning environments in their B.Ed. programs.

The professional development of teacher educators is very important, because unless teacher educators exhibit an effective use of technology in their own classes, it will not be possible to prepare a new generation of teachers who effectively use the ICT for both learning and teaching in their classrooms. Freeman (1996) aptly says that teacher education is in some ways still an "unstudied problem" and the use and efficacy of ICT by teacher educators remains an area yet to be explored in detail. Some of the studies that focus on the issue principally deal with the trainee teachers' knowledge and attitude towards technology as pointed out by Atkins & Vasu (2000) and Milbrath & Kinzie (2000). Leask & Pachler (1999) focus on teacher attitude, access and motivation, in tandem with situational factors affecting the extent of the use of ICT by school teachers. Zammit & Downes (2002) explores the diversity and complexity that both teachers and students encounter with the integration of a fast developing technology in contemporary times and proposes a new curriculum framework for the new learning environments. Onasanya, Shehu, Ogunlade & Adefuye (2011) examined the relationship between awareness, extent of utilization and teachers' gender and indicated that the males outperformed their female counterparts, indicating a socio-cultural conditioning and the nature of facilities provided in the formative stage, concomitantly signifying that all science teachers (especially the females) need to be motivated and provided with relevant ICT training experiences (at pre-service and in-service levels) in order to enhance their instructional delivery productivity. Teo (2011) reveals that teachers experience anxiety or technophobia when confronted with technology, a fact earlier endorsed by Sadik (2006) in an article titled "Factors Influencing Teachers' Attitudes toward Personal Use and School Use of Computers". Teo (2011) studied selected user characteristics and how these influence teachers' intention to use technology. Singh (2012) found a significant difference between the male and female teacher educators in their attitude towards teaching ICT with greater mean score by males than the females.

Objectives

The intent of the study is to investigate the belief of teacher educators and school teachers, regarding the extent and efficacy of use of ICT in classroom teaching.

Method

Sample: In the present study, 50 teacher educators from 11 teacher education colleges in and around Kolkata and 50 school teachers trained or undergoing training in different teacher education colleges were purposively selected. The samples had varied socio-cultural backgrounds and widely differing teaching experience. Both male and female teachers were included in the sample.

Tools: A questionnaire was made and validated by experts (educators who have served as curriculum developers, experts in ICT and professors of Educational Technology). 19 out of 25 questions were selected. These 19 questions were on three dimensions, namely:

1. ICT applicability in teaching leaning material

2. Effectiveness of software usage.

3. Sensory stimulation in the class through use of ICT.

Among 19 questions, 8 questions covered the first dimension, 6 covered the second and 5 covered the third dimension as mentioned. The questionnaire was designed to be responded to in a bipolar format with 'Yes' or 'No' option

Procedure: The questionnaires were distributed among teacher educators and trainee teachers in nearby teacher education colleges and e-mailed to teacher educators of more distant colleges. Some were distributed to the in-service school-teachers in schools in the city. Any query regarding any item of the questionnaire was either answered in person or over the phone and through e-mail. The answers were collected after seven days to ensure that the responses were not impulsive but thoughtful.

Analysis of data: The responded questionnaire, collected from all the samples were scored in the following way:

Each YES answer is counted as "2" and each NO answer is counted as "1".Based on this scheme, a score is obtained for each of the participant.Thus, for each of the 3 aspects, we performed the following steps:

1. Arrived at scores for each participant and those have been ranked in ascending order.

2. Applied Mann-Whitney U Test and Wilcox on Rank-Sum Test

SPSS software was used for statistical Analysis.

Result

The findings have been presented in five sub-sections

1: Male school teachers vs. female school teachers

Null Hypotheses: H_{01}: There is no significant difference between male & female school teachers' belief regarding ICT applicability in teaching leaning material.

H_{02}: There is no significant difference between male & female school teachers' belief regarding effectiveness of software usage.

H_{03}: There is no significant difference between male & female school teachers' belief regarding sensory stimulation in teaching through use of ICT.

Table.1 : Belief regarding ICT applicability

DIMENSION	GENDER	N	Mean Rank	Sum of Ranks
ICT APPLICABILITY IN TEACHING LEARNING MATERIAL	FEMALE	17	22.06	375.00
	MALE	33	27.27	900.00
SOFTWARE USAGE EFFECTIVENESS	FEMALE	17	32.94	560.00
	MALE	33	21.67	715.00
SENSORY STIMULATION IN TEACHING THROUGH USE OF ICT	FEMALE	17	29.68	504.50
	MALE	33	23.35	770.50
a. TEACHER = SCHOOL TEACHER				

Table.2: Test Statistics^{a,b} (a. TEACHER = SCHOOL TEACHER b. Grouping Variable: GENDER)

	ICT APPLICABILITY IN TEACHING LEARNING MATERIAL	SOFTWARE USAGE EFFECTIVENESS	SENSORY STIMULATION IN TEACHING THROUGH USE OF ICT
Mann-Whitney U	222.000	154.000	209.500
Wilcoxon W	375.000	715.000	770.500
Z	-1.256	-2.967	-1.767
Asymp. Sig. (2-tailed)	.209	.003	.077

Table.3 (Inference)

Null Hypothesis	Observation (á-level = 0.05)	Inference
H_{01}	Asymp. Sig. (2-tailed) value is greater than the á-level	Accepted
H_{02}	Asymp. Sig. (2-tailed) value is less than the á-level	Rejected
H_{03}	Asymp. Sig. (2-tailed) value is greater than the á-level	Accepted

Case 2: Male teacher educators vs. female teacher educators

Null Hypotheses:

H_{01}: There is no significant difference between male & female teacher educators' belief regarding ICT applicability in teaching leaning material.

H_{02}: There is no significant difference between male & female teacher educators' belief regarding effectiveness of software usage.

H_{03}: There is no significant difference between male & female college teacher educators' belief regarding sensory stimulation in teaching through use of ICT

Table.4: Ranks[a]

a. TEACHER = TEACHER EDUCATOR

DIMENSION	GENDER	N	Mean Rank	Sum of Rank
ICT APPLICABILITY IN TEACHING LEARNING MATERIAL	FEMALE	23	20.50	471.50
	MALE	27	29.76	803.50
SOFTWARE USAGE EFFECTIVENESS	FEMALE	23	25.96	597.00
	MALE	27	25.11	678.00
SENSORY STIMULATION IN TEACHING THROUGH USE OF ICT	FEMALE	23	27.72	637.50
	MALE	27	23.61	637.50

Table.5: Test Statistics^{a,b}

(a. TEACHER = TEACHER EDUCATORb. Grouping Variable: GENDER)

ICT APPLICABILITY IN TEACHING LEARNING MATERIAL	SOFTWARE USAGE EFFECTIVENESS		SENSORY STIMULATION IN TEACHING THROUGH USE OF ICT
Mann-Whitney U	195.500	300.000	259.500
Wilcoxon W	471.500	678.000	637.500
Z	-2.330	-.222	-1.184
Asymp. Sig. (2-tailed)	.020	.824	.236

Table.6: (Inference)

Null Hypothesis	Observation (á-level = 0.05)	Inference
H_{01}	Asymp. Sig. (2-tailed) value is less than the á-level	Rejected
H_{02}	Asymp. Sig. (2-tailed) value is greater than the á-level	Accepted
H_{03}	Asymp. Sig. (2-tailed) value is greater than the á-level	Accepted

Case 3: Female school teachers vs. female teacher educators

Null Hypotheses:

H_{01}: There is no significant difference between female school teachers & teacher educators' belief regarding ICT applicability in teaching leaning material.

H_{02}: There is no significant difference between female school teachers & teacher educators' belief regarding effectiveness of software usage.

H_{03}: There is no significant difference between female school teachers & teacher educators' belief regarding sensory stimulation in teaching through use of ICT.

Table.7: Ranks^{a} (a. GENDER = FEMALE)

DIMENSION	TEACHER	N	Mean Rank	Sum of Ranks
ICT APPLICABILITY IN TEACHING LEARNING MATERIAL	SCHOOL TEACHER	17	20.82	354.00
	COLLEGE TEACHER	23	20.26	466.00
SOFTWARE USAGE EFFECTIVENESS	SCHOOL TEACHER	17	12.59	214.00
	COLLEGE TEACHER	23	26.35	606.00
SENSORY STIMULATION IN TEACHING THROUGH USE OF ICT	SCHOOL TEACHER	17	21.97	373.50
	COLLEGE TEACHER	23	19.41	446.50

Table.8: Test Statistics^{b,c} (b. GENDER = FEMALE c. Grouping Variable: TEACHER)

	ICT APPLICABILITY IN TEACHING LEARNING MATERIAL	SOFTWARE USAGE EFFECTIVENESS	SENSORY STIMULATION IN TEACHING THROUGH USE OF ICT
Mann-Whitney U	190.000	61.000	170.500
Wilcoxon W	466.000	214.000	446.500
Z	-.159	-3.987	-.784
Asymp. Sig. (2-tailed)	.874	.000	.433

Table.8: (Inference)

Null Hypothesis	Observation (á-level = 0.05)	Inference
H_{01}	Asymp. Sig. (2-tailed) value is greater than the á-level	Accepted
H_{02}	Asymp. Sig. (2-tailed) value is less than the á-level	Rejected
H_{03}	Asymp. Sig. (2-tailed) value is greater than the á-level	Accepted

Case 4: Male school teachers vs. male teacher educators

Null Hypotheses:

H_{01}: There is no significant difference between male school teachers & teacher educators' belief regarding ICT applicability in teaching leaning material.

H_{02}: There is no significant difference between male school teachers & teacher educators' belief regarding effectiveness of software usage.

H_{03}: There is no significant difference between male school teachers & teacher educators' belief regarding sensory stimulation in teaching through use of ICT.

Table.9: Ranks[a] (a. GENDER = MALE)

DIMENSION	TEACHER	N	Mean Rank	Sum of Ranks
ICT APPLICABILITY IN TEACHING LEARNING MATERIAL	SCHOOL TEACHER	33	28.53	941.50
	TEACHER EDUCATOR	27	32.91	888.50
SOFTWARE USAGE EFFECTIVENESS	SCHOOL TEACHER	33	18.50	610.50
	TEACHER EDUCATOR	27	45.17	1219.50
SENSORY STIMULATION IN TEACHING THROUGH USE OF ICT	SCHOOL TEACHER	33	31.14	1027.50
	TEACHER EDUCATOR	27	29.72	802.50

Table.10: Test Statistics[a,b] (a. GENDER = MALE b. Grouping Variable: TEACHER)

	ICT APPLICABILITY IN TEACHING LEARNING TEACHING MATERIAL	SOFTWARE USAGE EFFECTIVENESS	SENSORY STIMULATION IN THROUGH USE OF ICT
Mann-Whitney U	380.500	49.500	424.500
Wilcoxon W	941.500	610.500	802.500
Z	-1.011	-6.199	-.395
Asymp. Sig. (2-tailed)	.312	.000	.693

Table.11(Inference)

Null Hypothesis	Observation (á-level = 0.05)	Inference
H_{01}	Asymp. Sig. (2-tailed) value is greater than the á-level	Accepted
H_{02}	Asymp. Sig. (2-tailed) value is less than the á-level	Rejected
H_{03}	Asymp. Sig. (2-tailed) value is greater than the á-level	Accepted

Case 5: School teachers vs. teacher educators, irrespective of gender

Null Hypotheses:

H_{01}: There is no significant difference between school teachers & teacher educators, irrespective of gender, in their belief regarding ICT applicability in teaching leaning material.

H_{02}: There is no significant difference between school teachers & teacher educators, irrespective of gender, in their belief regarding effectiveness of software usage.

H_{03}: There is no significant difference between school teachers & teacher educators, irrespective of gender, in their belief regarding sensory stimulation in teaching through use of ICT.

Table.12: Ranks

DIMENSION	TEACHER	N	Mean Rank	Sum of Ranks
ICT APPLICABILITY IN TEACHING LEARNING MATERIAL	SCHOOL TEACHER	50	49.48	2474.00
	TEACHER EDUCATOR	50	51.52	2576.00
SOFTWARE USAGE EFFECTIVENESS	SCHOOL TEACHER	50	29.99	1499.50
	TEACHER EDUCATOR	50	71.01	3550.50
SENSORY STIMULATION IN TEACHING THROUGH USE OF ICT	SCHOOL TEACHER	50	51.75	2587.50
	TEACHER EDUCATOR	50	49.25	2462.50

Table.13: Test Statistics[a] (a. Grouping Variable: TEACHER)

	ICT APPLICABILITY IN TEACHING LEARNING MATERIAL	SOFTWARE USAGE EFFECTIVENESS	SENSORY STIMULATION IN TEACHING THROUGH USE OF ICT
Mann-Whitney U	1199.000	224.500	1187.500
Wilcoxon W	2474.000	1499.500	2462.500
Z	-.367	-7.443	-.519
Asymp. Sig. (2-tailed)	.714	.000	.604

Table.14: (Inference)

Null Hypothesis	Observation (á-level = 0.05)	Inference
H_{01}	Asymp. Sig. (2-tailed) value is greater than the á-level	Accepted
H_{02}	Asymp. Sig. (2-tailed) value is less than the á-level	Rejected
H_{03}	Asymp. Sig. (2-tailed) value is greater than the á-level	Accepted

Inferences drawn for all the 5 cases based on the sample are summarized in the table below:

Table.15: Comparison

Groups	**Difference in belief regarding-**		
	ICT APPLICABILITY IN TEACHING LEARNING MATERIAL	SOFTWARE USAGE EFFECTIVENESS	SENSORY STIMULATION IN TEACHING THROUGH USE OF ICT
school teachers - male vs. female	insignificant	significant	insignificant
teacher educators- male vs. female	significant	insignificant	insignificant
female - school teachers vs. teacher educators	insignificant	significant	insignificant
male - school teachers vs. teacher educators	insignificant	significant	insignificant
School teachers vs. teacher educators irrespective of gender	insignificant	significant	insignificant

Discussion

The findings revealed a significant fact that though majority of teacher educators believed in the efficacy of ICT for enhancement of the teaching-learning environment and a concomitant professional enhancement of the teachers, there is significant difference between teacher educators and school teachers in their belief regarding effectiveness of software usage in the class. There are also significant differences between male and female school teachers, between female teacher educators and female school teachers as well as between male teacher educators and male school teachers in their belief regarding the effectiveness of software usage. A significant difference between male and female teacher educators is noted on their belief regarding the applicability of ICT in teaching-learning material. However, the reasons behind the differences are so varied and profound that warrants separate research in the area. From the interaction with the samples, apparently it seems that a generation gap as well as the nature of exposure to ICT remains a significant criterion. The significant difference in belief of male and female teacher educators regarding applicability of ICT as a teaching learning material is intriguing enough to warrant fresh investigation. It seems that the socio-cultural conditioning, upbringing, exposure to modern technology in a gender-related perspective are some of the prime determinants. The first two reasons can be said to be vital for the significant difference between female school teachers and female teacher educators as well as between male school teachers and male teacher educators in their belief regarding the effectiveness of ICT. In this case emerges a new concern regarding the infrastructural paucity of the schools as opposed to the teacher education colleges; a concern that may be said to be a determining factor in the case of the significant difference between the belief of school teachers and college teachers in general too, irrespective of their gender. However, despite significant differences, the belief in the use of ICT for enhanced teaching - learning is noted in the present study and it is found that the teacher educators or school teachers both feel the significance of having knowledge in the subject or basic technological operations. This belief must be banked upon and adequate infrastructural facilities provided for maximizing the professional performance of the teachers as well as for the total quality development of education in our nation. Jacobsen & Lock (2004) in "Technology and Teacher Education for A Knowledge Era: Mentoring for Student Futures, Not Our Past" describe initiatives focusing on cultivating enquiry based learning with technology for student teachers and Love & Isles(2006) had acknowledged the importance of teacher educators' involvement in establishing and participating in online discussion. They had referred to the Victorian Essential Learning Standards (2005) identifying the importance of ICT in the student community for sharing knowledge and expressing ideas as well as acquiring expert opinions. That use of ICT have led to significant changes in the school education all over the world, is also evident from the results of a series of case studies conducted by The Centre for Educational Research and Education (CERI) and Organization for Economic Co-operation and Development (OECD) in 2001. The need for inclusion of ICT in the B.Ed. curriculum may evolve as a necessary corollary. National agencies have started to realize the importance of orienting teachers with the use of ICT at the beginning of their teaching career and integration of ICT as a compulsory dimension of teacher education emerges as a necessary step with far reaching consequences.

The Relation among Environmental Action, Self Efficacy and Self Determined Motivation of Trainee Teacher: A Structural Equation Modeling Approach

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Abstract

The most important challenge to environmental education is to inculcate a sense of responsibility towards environment among the stakeholders so that they practice pro environmental behaviour in their lives including in work situations. The school teachers and prospective school teachers are to play a pivotal role in this regard. The practice of such behaviour is determined by different factors encompassing cognitive and psychological aspects and situational impediments. This paper studies the inter relation among the relevant determinants of environmental action namely self efficacy and motivation towards environment. The respondents were teacher trainees (N=600) from teacher training colleges affiliated to the University of Calcutta. The result showed that environmental action scores were positively and significantly correlated with self determined motivation and self efficacy scores. The structural equation modeling technique shown by the path diagram also supported the hypothesized model.

Key words: Environmental Action, Motivation, Belief Efficacy, Outcome Efficacy, Structural Equation Modeling and Path Analysis

Introduction

Pro-environmental behaviour is difficult to measure as it often, lacks clarity. The two concepts 'action' and 'behaviour' are used interchangeably. *Kollmuss and Agyeman* (2002) defined 'pro-environmental behaviour as the sort of behaviour that consciously seeks to minimize the negative impact of one's actions on the natural and built world' (p.240). According to *Jensen* (2002) an action should be directed at solving problem and it should be decided upon by those preparing to carry out the action. In the context of teachers' environmental action the scope of it becomes wider. In this case it not only refers to direct and indirect action, collective action and individual action like changing life style,

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reuse, recycle, public demonstration, cleaning litters etc and at the same time a teacher has to give environment related input through classroom teaching, sometimes deliberately. Thus he plays a pivotal role in molding behaviour patterns of the students through his personal actions. *Wilke* (1985) stated that "The key of successful Environmental Education is the classroom teacher. If Teachers do not have the Knowledge, skill and commitment to environmentalise their curriculum, it is unlikely that environmentally literate student will be produced .For this, special training to prospective teachers is necessary."

It is evident that there are multifarious factors which are to be attributed to environment related behaviour. *Van Liere and Dunlap* (1980) also reiterated that the researchers should pay equal attention to cognitive variables and demographic determinants that precipitate environmental concern. They assert that "the most powerful analyses of the social bases of environmental concern will likely be those which consider both its demographic and cognitive determinants". All these factors are again moderated by the person's situational factors. Consequently it is not easy or straight forward to analyse environment related behaviour and understand its determinants. Besides, there are many situational constraints for which people are unable to perform the behavior apart from an individual's own perceived self control. Different concepts of perceived control include internal locus of control, self efficacy, feeling of powerlessness and motivation including self determined motivation (*Deci Ryan*, 1985; *Green-Demers et. al*, 1997; *de Young*, 1996). Because of the presence of such variables the environmental behavior is not only susceptible but also inconsistent. Moreover the study of implications of psycho-social factors in precipitating environment related behaviour is an important area of research and the review of literature especially in the context of Indian situation has not been very satisfactory.

The researchers have rightly pointed out that there is need to integrate psychological processes and structural and external factors to get to the roots of environment related behaviour (*Messick and Brewer,* 1983). *Guagnano, Stern, and Dietz* (1995) argued that "science and policy require a socioeconomic theory of behavior that incorporates both external conditions and internal processes" (p. 700).

Self efficacy and motivation in relation to recycling behaviour have been studied by *Tabernero and Hernandez* (2011). They found that self efficacy was related to recycling behaviour directly by giving rise to intrinsic motivation. They used structural equation modeling, and found that all variables, except extrinsic motivation, provide a good model fit and explained variance in reported in-home recycling was also substantial (adjusted $R^2 = .45$). With the objective of studying psychological, cognitive and situational variables in the context of environmental behaviour the research problem was stated as the study on the Relation among Environmental Action, Self Efficacy and Self Determined Motivation of trainee Teacher: A Structural Equation Modeling Approach. The present research was planned with a number of objectives related to different variables like self efficacy belief and self efficacy outcome, motivation and of course environmental action. The present paper, however, particularly investigates whether an environment behaviour model of the trainee teachers can be tested by using path analysis and structural equation modeling. The use of SEM technique is likely to indicate the nature of relationship among the latent variables while exploring multivariate relationship in an integrated manner.

Environmental Action

Environmental action, particularly the term action, in general, has been defined from various perspectives. But for present purpose, environmental action has been defined as visible psychomotor responses made by an individual when the stimulation is related to any environmental issue like, protection, degradation, conservation and so on. Since such responses are visible, one can report of such actions even if it is made inadvertently. Thus environmental actions are those responses which one makes in the appropriate situation and can report retrospectively when asked for. By environmental action it is meant the observable and reported behaviour of the individuals, either done or willingness to do in future, regarding the protection of the environment.

Motivation

Self Determined theory of motivation distinguishes between autonomous and controlled motivation. In autonomous motivation the individual has a choice as autonomy means endorsing one's action at highest level of reflection (*Dworkin,* 1988). An autonomous individual engages in an activity which is interesting and so the engagement is volitional. But in controlled motivation, the individual feels externally controlled and has a sense of having to engage in an activity (*Gagne and Deci,* 2005). They further postulated that Autonomous motivation and controlled motivation are both intentional and together they stand in contrast to amotivation, which involves a lack of intention and motivation.

Self-Efficacy

The self-efficacy includes a person's perception of activity to perform the behaviour (belief-efficacy) and a person's expectation that a specific behaviour will result in desirable outcome (outcome- efficacy). To successfully achieve the desired outcome, individuals must possess the necessary skills as well as a buoyant self-belief that they are capable of controlling the specific situational factors (*Bandura,* 1989). People with high self-efficacy are more likely to respond with renewed effort (expectancy) when feedback shows that they are not reaching their goals by developing more successful strategies.

Structural Equation Modeling

The application of structural equation modeling in social science research started relatively late starting in the 1970s. Since then it has been used in biological science, sociology, psychology educational research, political science and of course in economics. The structural equation modeling is a general approach to multivariate data analysis. SEM depicts the linear relationship among the measured variables and also is concerned with cross sectional statistical model testing. It is a simple statement of verbal theory that makes explicit the hypothesized relationship among a set of studied variables (Marcoulides, 1989). SEM consists of measurement model and structural model. The measurement model depicts the relationship among the variables. The structural model shows the direction and strength of relationship of variables. It measures the intricate relationship between measured (observed) and unobserved (Unmeasured or latent) variables. The regression analysis also does that but SEM deals with a set of regression equations simultaneously. The parameters of a SEM are variances, regression coefficients and covariances among variables. As a matter of fact regression, simultaneous equations, path analysis and variations of factor analysis and canonical correlational analysis are special cases of SEM. SEM is summarized clearly and graphically by path diagrams. Thus a theory or a proposed model is tested by using structural equation model.

In educational research, the use of SEM is likely to be beneficial as it explores the latent variables and in this kind of research i.e. in education many variables are latent. Latent variables are abstract psychological constructs like self efficacy, environmental awareness etc. To measure such variables different types of errors may contaminate the result. SEM deals with two types of variables namely observed and latent variables. Observed variables are measured from the responses obtained from data and mostly continuous. However, latent variables cannot be directly observed. In SEM the models are set and latent variables are expressed in terms of observed variables. SEM, while dealing with model measurement error, gives an unbiased estimate for the relation between latent constructs. Besides multiple measures of a single latent construct is possible in SEM. In SEM nomenclature the dependent variable is known as endogenous and independent variables are exogenous. SEM is an extension of multiple regression analysis but a difference between the two techniques is that regression analysis considers only observed variables whereas SEM takes in to account the variables that have not been directly measured. These unobserved variables are calculated on the basis of the relation among a set of measured variables.

Path analysis was the precursor of modern day SEM. SEM still starts with path analysis. Thus path analysis is a special case of SEM. It is customary to communicate a SEM model by drawing a picture of it (*Marcoulides and Hershberger,* 1997). Unlike SEM, path analysis is only a structural model without measurement model. PA is concerned with causal modeling approach than correlative approach. In path diagram observed or measured variables are depicted by rectangle or square and latent or unmeasured variables are represented as circle or ellipse. Moreover single headed arrows indicate causal relation whereas the double headed arrows depict covariance.

In path analysis, exogenous variables in a path model are those where no error points towards them, except the measurement error term. If exogenous variables are correlated to each other, then a double headed arrow will connect those variables. Endogenous variables may have both the incoming and outgoing arrows. In path analysis, a path coefficient is a standardized regression coefficient (beta), showing the direct effect of an independent variable on a dependent variable in the path model.

Correlation and regression analysis are traditional statistical techniques but they are similar to SEM in some ways. Both SEM and regression and correlation are based on linear statistical models. One of the assumptions of regression and correlation is that of normal distribution. SEM also assumes multivariate normality. Both the methods fail to offer a test of causality. But the differences between the two methods are also apparent. Path analysis is highly flexible and comprehensive in nature. It is a convenient tool for investigating phenomena like environmental awareness action self efficacy motivation and other psychological constructs. Another point of difference is that regression methods specify default model and offers few limitations regarding the relationships among the variables. But in SEM the researcher specifies a hypothesized model which is supported or rejected by it depending on appropriate specification. In regression analysis dependent and independent variables are fixed whereas in SEM an independent variable may be independent in another equation and vice versa. Most importantly the regression analysis considers measurement is error free when SEM indicates the error or unexplained variances. Path analysis offers a number of tests to determine and evaluate model fit e.g. Chi-square, comparative fit index, Root Mean Square Error of Approximation etc. Regression only offers one test of significance. Besides path analysis presents the relation diagrammatically.

Steps in structural equation modeling

SEM is a family of statistical techniques. Despite the variations in techniques generally the following steps are adopted while using this technique.

Model specification

This is the stage when the model is formally stated. A-priori hypothesis is formulated and parameters are determined as fixed or free. That is a structure or model is specified. This hierarchy based model is pictorially presented with a series of equations. A good model should be parsimonious, theoretically justified and reproduces the underlying correlation matrix based on constraints imposed. In the next step a path diagram is drawn showing a causal relation. In this stage exogenous and endogenous constructs are defined and they are linked in a specified manner.

Model identification

Model identification means whether there are sufficient equations to solve each of the coefficients (Unknown) to be estimated. A researcher will always want to have an over identified model. There are three types of model identification. Under identified models are those where one or more parameters from observed variance covariance matrix cannot be estimated. This type of model identification is considered to be uncertain. A just identified model is also known as saturated model where all uniquely estimable parameters are utilized. It fits the data perfectly. However, the most desirable model is over identified where the number of available variance covariances is greater than the number of parameters to be estimated. That is more equations than estimated coefficients and degree of freedom greater than zero are available. AMOS software can detect and notify a range of model identification problems.

Estimate

The model is now estimated by using statistical techniques. In this study AMOS student's version software was used to estimate the model

Tests of fit

There are a number of indices of model fit. It is often problematic to select appropriate fit statistics.

Respecification

If the model is bad fit then the question of respecification comes up to develop better model fit. The SEM programmes provide a set of modification indices along with their outputs suggesting changes for good model fit. However pruning co variances should be undertaken cautiously so that changes make theoretical senses.

Participants

Multistage sampling technique was adopted to select the sample for this study. From the list of NCTE recognised Secondary Teachers' Training Institutions of West Bengal, 20 Institutions were selected randomly. Out of this random selection, 10 institutions (8 institutions for final study and 2 institutions for pilot survey) were selected for data collection, where the Institutional authorities permitted the researcher to undertake research work. Total number of trainees in the sample was 600.

Instruments

Environmental Action Scale

Environmental Action scale by Chakraborti and Sengupta (2005) was adapted by the investigators with items on behaviour related to saving of fossil fuel, Recycling behaviour, food habits and use of participation or involvement in environment related programmes etc. It is a Likert type 5-point scale consisting of 30 items with the reliability (KR-21) value was found to be 0.66 and item validity was tested by Tetra-choric correlation.

Motivation towards Environment Scale (MTES)

The scale was developed by Pelletier, Tuson, Green-Demers, Noels and Beaton (1997) at the University of Ottawa, Canada. It is an instrument to assess intrinsic, extrinsic and overall motivation for environmental behaviour. It has 23 items. The scale has six subscales namely intrinsic motivation, integrated regulation, Identified regulation, Introjected regulation, External regulation and amotivation. Items are arranged in random order. The scale starts with the question- "Why are you doing things for environment?" 23 statements are given as answers to these questions reflecting different types of motivation. For example- "because I would feel bad if I did not do anything for environment" or " Honestly, I do not know, I truly have the impression I am wasting my time doing things for environment" It is a 7 point scale ranging from 1 (does not correspond at all) to 7 (correspond exactly). The Cronbach alphas for subscales are reported to be intrinsic-

0.89, integrated-0.92, identified-0.89, introjected-0.71, external regulation-0.81 and amotivation -0.83. This scale was translated in Bengali and restandardised for the population from which the sample of the present study was drawn.

College Teaching Self Efficacy Scale

This scale was developed by Leonor Prieto (2006) as 'College Teaching Self Efficacy Scale'. For the purpose of appropriate application the scale has been modified keeping the spirit unchanged.[1] The items are short-listed and the language also modified to some extent as and when needed. The original test was applied to the College teachers in general but in this case the test is to be given to the teacher trainees studied in Secondary Teachers' Training Colleges of West Bengal in relation to the Environmental Education. The scale having 44 items is divided into two columns. The left hand column depicts how confident the participant feels in carrying out environmental education activities (belief efficacy). The range of responses vary from 1 to (no confidence) 6 (completely confident). The right hand column depicts how often the subject carries out the activities (outcome efficacy). Again the range of responses vary from 1(never) to 6 (always). The scale was standardized following the same manner mentioned for other scales on the same 160 sample (*Sengupta and Pal,* 2011). Item means and standard deviations were calculated with a view to examine any bias in response style. The reliability coefficients of the Self-efficacy scale (belief efficacy and outcome efficacy) were also determined in similar manner by *Kuder Richardson* formula-21 and it was 0.83 and 0.59 respectively.

Result and Discussion

The variables which are studied in this research are environmental action, motivation towards environment and Self Efficacy. The data are analysed in two phases namely correlation matrix and path diagram representing structural equation modeling.

Table 1: Correlation between Environmental Action with Self Efficacy and Self Determined

Motivation

Pearson Correlation	EAC	BEF	OEF	SDM
EAC	1.000	- 0.020	0.577**	0.351**
BEF		1.000	0.026	- 0.030
OEF			1.000	0.146**
SDM				1.000

Note: EAC = Environmental Action, BEF = Belief Efficacy, OEF = Outcome Efficacy, SDM= Self Determined Motivation.

** Correlation is significant at the 0.01 level (2-tailed)

The calculated r values of the above table (Table No. - 1) indicates that Environmental action has significant and positive correlation (0.577**) with outcome efficacy. It is interesting to note that Environmental action also shows significant positive correlation with Self determined motivation (0.351**). The outcome efficacy again correlates significantly with SDM (0.146**). The obvious implication is that high level of internal control is often associated with actual performance. It further points out that belief efficacy is not enough to make a teacher confident or do things for environment in the class. So to perform the environmental activity trainee teachers need higher level of self determination including opportunities to practice environment related behaviour with success.

In the next phase of analysis structural equation modeling technique is adopted and the path diagram is constructed to test a hypothesized model of environmental action. By following the steps of structural equation modeling at first a model of environmental behaviour is specified. It has already been mentioned that environmental related behaviour is preceded by many factors. In this case a limited number of predictors have been observed. The regression analysis has shown that environmental action can be predicted on the basis of these variables. These findings and relevant researches were considered to propose this particular model. In the next step the path diagram is drawn by the help of AMOS software.

The AMOS programme also showed that the proposed model is over identified meaning that there are more equations than independent parameters signifying that model can be tested. The df is greater than zero and df= p-q, i.e. df is positive and all q parameters can be tested. Identification of model is based on the principle of testing variance- covariance matrix of the proposed model with that of observed empirical data. It has already been mentioned that over identified model is most desirable because it happens when number of variance covariance matrices (units of information) is greater than the number of parameters to be estimated (*Marcoulides and Hershberger*, 1997). Model related to environmental action vs. Self efficacy (belief efficacy and outcome efficacy) and self determined motivation is shown below.

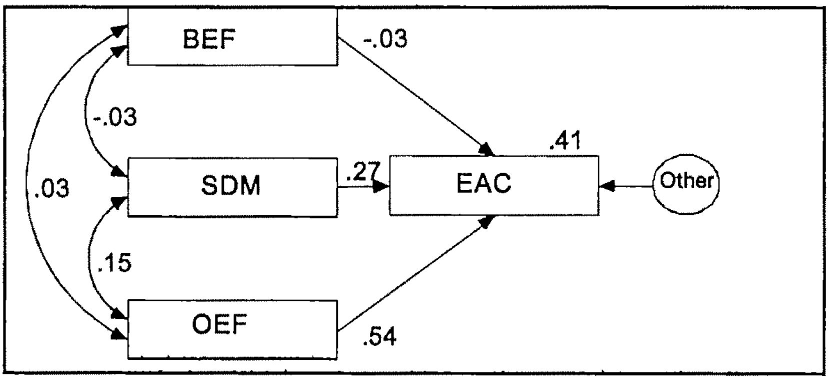

Fig. - 2: Path analysis model related to environmental action vs. Self–efficacy and self determined motivation

Present study includes 5 variables in the model concerned. The lists of the variables are as follows:

- **Observed, endogenous variable:**

  EAC (Environmental Action)

- **Observed, exogenous variables :**

  BEF (Belief Efficacy)

  OEF (Outcome efficacy)

  SDM (Self determined motivation)

- **Unobserved, exogenous variable**

  Other

Variable counts

Number of variables in the model:	5
Number of observed variables:	4
Number of unobserved variables:	1
Number of exogenous variables:	4
Number of endogenous variables:	1

The over-all goodness of fit of the initial hypothesized model indicates an acceptable fit with the data (Adjusted Goodness of Fit Index = 0.984).The relative chi-square value calculated is 1.54, which also acceptable enough for fitness of the model. As shown in Figure 1, two of the three predictor variables had significant positive direct effects on environmental action of the trainee teachers. Outcome efficacy had the strongest direct effect (b= 0.54) on environmental action. The negative path coefficient (b = - 0.03) between BEF and EAC indicates that holding constant the other variables in the model, trainee teachers having low belief efficacy will be more environmentally active than those with high belief efficacy. The positive path coefficient (b=0.27) between SDM and EAC indicates that holding constant the other variables in the model, trainee teachers with high self determined motivation will be more environmentally active than those with low self determined motivation. Similar type of observation may be drawn for outcome efficacy. Interaction among the variables under study shows that self determined motivation has maximum positive effect on outcome efficacy (b= 0.15). The theoretical models tested in this study included several variables which were found to be related to environmental action of the trainee teachers. The variables were placed in the model such that the development process of environmental action could be examined. Results revealed that environmental action is the complex result of these (and other) variables working collectively.

Conclusion

A researcher has to depend on self report of the subjects to understand the environment related behaviour. However the external validity of the self reported ecological performances is often suspecting yet the researcher has depended on it. In any case ecological behaviour is a latent construct which is difficult to be inferred. The researcher often seeks to estimate this latent variable with only a single observed measurement and the reliability of this measure is usually unknown. So perception or behaviour measures may have low reliability.

In educational research if one of the predictor variables is unreliable then the magnitude of the coefficient may be inaccurate even the sign may not be correct. In this research, it is expected that belief efficacy, a dimension self efficacy to be positively correlated with environmental action but the empirical data showed that the self efficacy belief and environmental action are negatively correlated though the magnitude is very small. So we expected positive correlation but ended up with negative correlation. From the structural equation modeling, it is evident that the multi-co-linearity among the three predictor's belief efficacy outcome efficacy and self determined motivation is not so pronounced. When the interdependence among the predictors is strong then the model result is poor and misleading. But this is not the case for the present research. It is to be admitted that although path analysis and SEM are termed as causal modeling yet they cannot prove causation. Even when the goodness of fit indices are within the specified range, as is the case for the present research, the model can never be accepted, only it can be said that it fails to be rejected. It may also be the case that other equivalent models may fit equally well. A good grasp over the theory of environmentalism and good sense must guide the researcher in model specification. Most importantly SEM is about model testing and not about model building, which is why SEM is confirmatory in nature rather than explanatory.

The theoretical underpinning of environmental behaviour or environmentalism is a rapidly developing field. As it has already been mentioned, we have very limited number of facts about the concrete phenomenon like environmental action or behaviour. At the same time it is to be admitted that not all the facts in social science are knowable (*Parsons*, 1938) .In environmental education we must seek to provide right kind of facts we have, use them and develop the relevant theory as rapidly as we can. So as part of research process self corrective theories are to be developed as no single theory, grand or narrow can explain the phenonmenon of environmentalism. Theories will help to create questions, shape our research design, anticipate outcome and design intervention. (***White***, 1997)In environmental education there is a paradigm shift in understanding pro environmental behaviour and researchers are endeavouring to develop the fuzzy and imprecise nature of environment related concepts. So, further researches are called for to identify indicators which reflect the variables of environmental behaviour.

References

Arbuckle, J. (1997). *Amos Users' Guide Version 3.6.* Chicago IL: Small waters Corporation.

Bandura, A. (1989). Human Agency in Social Cognitive Theory. *American Psychologist,* 44, p.1175-1184.

Bollen, K.A. (1989). *Structural Equations with Latent Variables*. New York: Wiley.

Byrne, B. M. (1994). *Structural equation modeling with EQS and EQS/Windows.* Thousand Oaks, CA: Sage.

Deci, E. L., and Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behaviour.* New York, NY: Plenum.

De Young R. (1996). Some Psychological Aspects of Reduced Consumption Behaviour, the Role of Intrinsic Satisfaction and Competence Motivation. *Environment and Behaviour,* 28(3), p. 358-409.

Dworokin (1988). In Gagne, M., and Deci, E. L. (2005) Self-determined Theory and Work Motivation. *Journal of Organizational Behaviour,* 26, p-331-362.

Gagne, M., and Deci, E.L. (2005). Self-determined Theory and Work Motivation. *Journal of Organizational Behaviour*, 26, 331-362.

Green-Demers, I., Pelletier, L. G. and Menard, S. (1997). The Impact of Behavioural Difficulty on the Saliency of the Association between Self-Determined Motivation and Environmental Behaviours, *Canadian Journal of Behavioural Science*, 29(3), p.157-166.

Guagnano, G. A., Stern, P. C., & Dietz, T. (1995). Influences on Attitude–Behavior Relationships: A Natural Experiment with Curbside Recycling. *Environment and Behaviour,* 27(5), 699–718.

Jensen, B. B. (2002). Knowledge, Action and Pro-Environmental Behaviour. *Environmental Educational Research,* 8(3), 325-334.

Kollmuss, A., and Agyeman, J. (2002). Mind the Gap: Why Do People Act Environmentally and what are the Barriers to Pro-Environmental Behaviour? *Environmental Educational Research,* 8(3), p. 239-260.

Marcoulides, G.M. (1989). Measuring Computer Anxiety: The Computer Anxiety Scale. *Educational and Psychological Measurement,* 49, 733-739.

Marcoulides, G.M., and Hershberger, S.L. (1997). *Multivariate Statistical Method: A First Course.* Mahwah, NJ: Lawrence Erlbaum Associates. In Structural Equation Modeling: Application in Ecological and Evolutionary Biology. Ed. By B. H. Pugesek, A, Tomer and Alexander von Eye. Cambridge University Press: UK.

Messick, D. M., & Brewer, M. B. (1983). Solving Social Dilemmas: A Review. In L. Wheeler, & P. Shaver (Eds.), *Review of Personality and Social Psychology*, 4, 11–44.

Parsons, T. (1937). The Role of Theory in Social Science Research. American Sociological Review, 3(1).

Pelletier L. G, Tuson, K. M., Green-Demers, I., and Noels, K. (1997). Why Are You Doing Things for the Environment? The Motivation toward the Environment Scale (MTES). *Journal of Applied Social Psychology,* 28(5), p. 437-468.

Prieto, L. (2005). *College Teaching Self-Efficacy Scale (CTSES), Las creencias de autoeficacia docente del profesorado universitaria,* Madrid, Universidad Pontificia Comillas.

Tabernero, C., and Hernandez, B. (2011). Self Efficacy and Intrinsic Motivation Guiding Environmental Behaviour. *Environment and Behaviour*, 43 (5), 658-675.

Van Liere, K., & Dunlap, R. (1980). The Social Bases of Environmental Concern: A Review of Hypotheses, Explanations, and Empirical Evidence. *Public Opinion Quarterly*, 44, 181–197.

White, W. (1997). *In Basics of Social Science Research* by E. R. Babbie, (2005) Thomson Wadsworth: New York .USA.

Wilke, R. J. (1985). Mandating Preservice Environmental Education Teacher Training: The Wisconsin Experience. *The Journal of Environmental Education*, 17(1), 1–9.

Research Abstracts

Educational Management: *Citizenship Behaviour and Job Satisfaction*

Title	Ecological Study of Teaching Profession : Impact of School Administrative Structure and Organisational Citizenship Behaviour on Job Satisfaction
Research Scholar	Dr. Rudra Prasad Saha
Supervisor	Dr. Madhumala Sengupta
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2012
Availability of the thesis	Central Library, Calcutta University

Problem

The study has investigated relationship among the variables namely organizational citizenship behaviour, job satisfaction, administrative structure of the school and school community interaction as perceived by the secondary school teachers..

Objectives

The objectives of the study were to find out the effect of school management system, gender and professional qualification status of secondary teachers on organizational citizenship behaviour and their job satisfaction. The perception of the teachers regarding school community relation is another variable studied and its impact analysed.

Variables

The variables studied are organisational citizenship behaviour, job satisfaction, school community relation, school management system, gender and professional qualification status of the teachers.

Sample

The sample was drawn from 45 schools situated in the city of Kolkata and few districts of West Bengal (India) - Howrah, North 24 Parganas, Nadia and Malda .The size of the sample is 600, divided into categories namely male, female, teachers of government school, government sponsored school and private schools and teachers with B.Ed degree and teachers without B.Ed degree.

Tools

Job Satisfaction Scale for Teachers by S.K. Saxena. (1994).

The Bengali adaption of Organisational Citizenship Behaviour Scale constructed by Jimmieson and Hannam (2006) in the University of Queensland, Australia.

A questionnaire to assess school community relation was developed by the researcher and his supervisor.

Analysis

Apart from descriptive analysis for all sample groups and total groups, ANOVA and't' tests were done to find the relationship among variables, and regression analysis was done to find out the predictability of the scores in independent variables.

Findings and Discussion

The analysis of the data showed that the organizational citizenship behaviour and the level of job satisfaction of the teachers did not differ across the types of schools namely government, government aided and private schools. No difference was found between male and female teachers and teachers with B.Ed degree and without B.Ed degree regarding these two variables.

However, different result was found in case of school community relation. In this regard the perceived nature of such relationship was different for male and female teachers. The teachers working in three different types of schools reported to profess different opinions in this regard. Also teachers with B.Ed and without B.Ed have shown significantly different perceptions in the context of the nature of school community relation that exists in their schools. The most interesting finding of the study is that teachers working in private schools have the highest mean score in this regard. Also standard deviation value in this case was found to be lowest indicating least variability in this matter. Interaction between gender and school type with respect to school community relation was significant while interactions between gender and qualification, school and qualification were not statistically significant

Coefficient of correlation between OCB and job satisfaction, correlation between OCB and school community relation and correlation between school community and job satisfaction are positive and significant. The OCB can be predicted from school community relation and job satisfaction scores. This is an important finding supporting the argument that congenial atmosphere within the school is essential for the teachers to practice behaviours beyond their formal role so that the effectiveness of the schools increases.

Educational Psychology : *Creativity*

Title:	Scientific Creativity: Its Relationship With Study Approaches, Aptitude In Physics, And Scientific Attitude.
Research Scholar :	Rajib Mukhopadhyay,
Department :	Education, St. Xaviers College, Kolkata
Supervisor :	Dr. Malay Kumar Sen,
Degree Awarded :	Ph.d Education, 2011
Availability of the thesis	Central Library, Calcutta University

The problem: Creativity in physics is a specific area of scientific creativity which remains mostly unexplored till today. Hence is the present attempt. Scientific creativity is the broad area of investigation, but herein it is treated as creativity in physics, specifically. The study investigated creativity in physics in the context of learning in relation to three relevant factors namely- aptitude in physics, scientific attitude, and study approaches

Objectives :

Major objectives:

i. to investigate inter-group differences in creativity in physics due to gender, habitat, and level of creativity (high, average, low), and various interactions between/ among them.
ii. to investigate the relationship of creativity in physics with other selected variables at bivariate level;
iii. to investigate the same relationship in the multivariate perspective.

Subsidiary objectives :

iv. To construct and standardize a test on Creativity in Physics
v. To construct and standardize a test on Aptitude in Physics

Hypotheses :

i. There is no significant intergroup difference in creativity in physics due to gender, habitat, levels of creativity in physics, and various possible interactions among/between them

ii. There is no significant relationship of creativity in physics with each of the other selected variables

iii. Creativity in physics can not be predicted significantly by the other selected variables at multivariate level.

Sample :

Seven hundred three numbers of students of class XI science studying in different schools in and around Kolkata were selected using stratified and random sampling technique. This constituted the statistical sample for the study. A part of the statistical sample (N=212) was used as the try-out group for constructing the two referred tests.

Tools used :

For measuring study approaches, and scientific attitude; Approaches to Study Inventory (ASI: standardized by Entwistle and Ramsden, 1983; and adapted by Sen, 1995) and Scientific Attitude Scale (SAS: standardized by Sood and Sanadhya, 1978; and adapted by Rao, 1996) were used respectively

Tools constructed and standardized :

In the test on Creativity in Physics, fourteen different abilities (including divergent and convergent both) were selected. Scoring was done in an innovative way, using the principle of five point grading. Internal consistency and inter-scorer reliability of the test were estimated. For constructing the items of the test on Aptitude in Physics, seven different primary abilities were selected. Split-half and internal consistency reliability were estimated. Various measures of validity namely face, intrinsic, predictive, concurrent, criterion, content, and construct validity were estimated for both the tests. Results indicated satisfactory reliability and validity for both of these. Detailed scoring key for each was also prepared.

Statistical analyses used :

i. Descriptive statistics (Mean, S.D., Skewness, Kurtosis) : for primary investigation of the sample

ii. ANOVA, t-tests: to investigate intergroup differences in creativity in physics

iii. Coefficient of correlation (creativity in physics with each of the other selected variables) : to investigate the interrelationship at bivariate level

iv. Multivariate regression analyses (multiple regression and subsequently step wise regression): to investigate how the selected predictor variables predict the criterion variable.

Findings :

i. Gender, habitat, and level of creativity independently, and the interactions of gender and habitat, gender and level of creativity, and habitat and level of creativity were found to be significant for most of the scores related with different dimensions of creativity in physics

ii. At bivariate level, Creativity in Physics was found to be significantly correlated, negatively with surface approach and positively with each of the other variables.

iii. Results of multiple regression analysis indicated that creativity in physics can be predicted significantly by all the predictor variables. Results of step-wise regression analysis indicated that aptitude in physics, deep approach, and scientific attitude played the dominant roles in prediction.

Educational Psychology : *Stress Management*

Title	A Study of the Occupational Stress of School Teachers in Relation to their Stress Reactions and Manifest Need for Counselling
Research Scholar	Dr. Sairindhree Sen
Supervisor	Dr. Debasri Banerjee
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2012
Availability of the thesis	Central Library, Calcutta University

Problem

Teacher stress is the experience by a teacher of unpleasant emotions such as tension, frustration, anger and depression resulting from aspects of his/her work as a teacher. Persistent and prolonged teacher stress can pose a serious threat to the quality of education and the healthy nurturing of students. The present work studied the stress of 623 full-time, secondary and higher secondary school teachers from Kolkata and some other districts in West Bengal.

Objectives

The aims of the study were to identify – (i) the stress factors, stress reactions and attitude towards counselling of school teachers and their stress levels; (ii)relationships among stress factors (personal and professional), (iii) stress reactions and attitude towards counselling; and (iv) the general trend in the teachers' attitude towards counselling vis-à-vis their respective levels of stress.

Tools

An *Information Schedule*, *Teachers' Stress Factors Inventory*, *Teachers' Stress Reactions Inventory*, and a Scale for *Teachers' Attitude to Counselling*. All the tools were constructed by the researcher.

Findings

The most conspicuous personal stress factors causing maximum impact were family finance, family, personal ability, sociability, and self-conflict. Professional stress factors were : rapport with the colleagues and professional finance, school environment, job satisfaction, present education system, and social factors. The most perceptible stress reactions were - feeling that they had not selected the right profession, finding their profession boring and fatiguing, supporting corporal punishment to maintain discipline, being mostly pre-occupied with anxieties, frustrations and inferiority in their leisure time, etc. Teachers showed very little awareness about counselling. Most teachers were hesitant to express their stress-related problems candidly in public and reluctant to approach mental health experts because they apprehended that an invisible stigma was attached to counselling, or feared social denunciation. Majority opposed the idea of attending teachers' counselling sessions in schools and teachers' training colleges. Teachers also suggested some coping strategies like maintaining spiritual practice, reading books on stress management, etc. Male teachers showed a higher level of stress and more positive attitude towards counselling. Teachers from government-aided schools showed the highest stress level, followed by private and finally government schools. Teachers from private schools showed the most positive attitude towards counselling, followed by government-aided and government schools sequentially. Majority of stressed teachers had a negative attitude towards counselling, and majority of teachers having low stress, had a positive attitude towards counselling. Significant differences were found between - male and female teachers in terms of stress reactions, and attitude towards counselling; government and government-aided school teachers in terms of stress factors and attitude towards counselling; government and private school teachers in terms of stress factors and attitude towards counselling; and government and private school teachers in terms of professional stress factors. Personal and professional stress factors, and stress factors and stress reactions were significantly correlated. No significant interaction effect was found between gender and type of school. The case study on the highly stressed and least stressed groups revealed that gender to some extent and type of school influenced stress among the school teachers.

Educational Psychology: *Student Personality and Mode of Learning*

Title	A Comparative Study of Self Concept, Educational Aspiration and Locus of Control of the Learners Studying Through Distance Mode and Formal System
Research Scholar	Dr. Priyanka Das
Supervisor	Dr. Debasri Banerjee
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2012
Availability of the thesis	Central Library, Calcutta University

Problem

Going through the review of researches in the field of distance education a gap is felt for research in the very basic stage education i.e., secondary stage through open school in West Bengal. Also no comparative study between the two parallel mode of secondary education, distance and conventional, has been found so far. To fill this research gap an attempt has been made to study some of the psychological determinants of students those seem to affect the quality of education at secondary and higher education level in these two modes of study. The aim of the present study was to compare Self Concept, Educational Aspiration and Locus of Control of the students of distance and formal mode of study at the very basic school level i.e., secondary education level.

Objectives

The following objectives have been formulated for the present study,

To assess and compare the self concept, educational aspiration of the students in the formal and open mode of education.

To find out whether there is a difference in students due to gender, Locus of control and mode of education with respect to their educational aspiration, and self concept.

Tools

Personal Information Sheet
Mazumder Educational Aspiration Inventory (MEAI), (2003).
Rotter Internal-External Control Scale
Self Concept Inventory, constructed and standardized by the researchers (Das and Banerjee)

Findings

- There is significant difference between the students of formal mode and distance mode in respect of their locus of control.
- The students with internal locus of control have higher self concept related to job, aspiration related to goal period and aspiration for efforts made and success in exam than the students with external locus of control.
- The students of formal mode of instruction scored significantly higher in total self concept, self concept related to intellectual and school status, social self concept and popularity, job related self concept, aspiration related to past experience and goal period than the students of distance mode.
- Boys and girls only differed in belief and convictions and aspiration regarding goal period. Apart from this the two groups did not differ in any other sub dimension of Self Concept and Educational Aspiration.

Elementary Education : *Inclusive Education*

Title	Critical study of the problems of non-enrolment, drop-out and non-attendance of children at primary stage of education in urban slums of Kolkata : A case study
Research Scholar	Dr. Indrani Nath
Supervisor	Dr. Nimai Chand Maiti
Associate Supervisor	Dr. Md. Kutubuddin Halder
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2012
Availability of the thesis	Central Library, Calcutta University

The Problem

Though urbanization continues at a rapid speed worldwide yet existence of slums in urban areas is almost a common phenomenon. Urbanization, however, does not guarantee that all children who live in urban areas enjoy all the benefits of living in such areas. Thus, children from the urban disadvantaged section specially those living in slums need special focus. On one hand illiteracy leads to ignorance and exploitation of these poorer masses and on the other hand poverty keeps them under constant pressure to fight day in and day out for their life and living. Education not only leads to economic growth and social development but is also considered as a principal means for improving overall human welfare. Primary education acts its foundation. The main purpose of conducting this study is to identify the major causes of non-enrolment, drop-out and non-attendance (irregular attendance) among boys and girls (5 to 9 years age group) at primary stage of education and to understand the impact of socio-economic condition of the family and physical & other facilities available in school on their educational status and to formulate pathways to combat with the problem so that the target of ensuring at least primary education to all children could be achieved as early as possible.

Methodology

A purposive sampling technique was adopted for selecting ten slums under two Kolkata Municipal Corporation wards. House hold survey was conducted and local schools were also visited and students, teachers and head teachers were interviewed. The following schedules were used to collect data : socio-economic background schedule; interview schedules for (i) parents (ii) teachers (iii) children; information schedule on physical facilities available in primary school, general information schedule about urban slums and school schedule. Both quantitative and qualitative analysis was done. For quantitative analysis percentage, mean, chi-square test and ANOVA were adopted. Qualitative analysis was done on the basis of observation and discussion made by the researcher during household survey and school visit.

Major findings

1. Out of total population taken for study 20% were migrated.
2. Mostly nuclear families consisting of on an average six members.
3. Majority of the household occupy single room where multi-purpose activities were carried on.
4. Unhygienic living condition.
5. Majority of the head of the family were engaged in unorganized sector with poor and unstable income. 70% households were living below poverty line. 55% households' monthly income was below Rs.2000.
6. Out of the total 5-9 years age group 36.66% were non-enrolled, 6.25% drop-out, 3.12% non-attending and only 54.27% were attending school on regular basis.
7. All children who were not attending school were not necessarily engaged directly with any economic activities.
8. Chief common causes for non-enrolment, drop-out and irregular attendance was found to be poverty, migration, health related problems and lack of suitable home and surrounding environment followed by house hold work, lack of parental awareness etc.
9. Nature of occupation of head of the family affects his child's education.
10. Economic condition of the family affects child's educational status.
11. Though fathers' level of educational attainment does not affect his children's educational status but in case of mother, it does.
12. Number of teachers, class-room, type of school, medium of instruction found to affect students attendance.
13. Regularity or irregularity in attending school does not depend on gender.

Elementary Education: *Sarva Shiksha Abhiyan*

Title	A study of the impact of Sarva Shiksha Abhiyan Programme on the status of Primary Education in West Tripura District
Research Scholar	Dr. Nibus Chandra Sil
Supervisor	Dr. Md. Kutubuddin Halder
Joint Supervisor	Dr. Nemai Chand Maiti
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2013
Availability of the thesis	Central Library, Calcutta University

The Problem

To achieve the long cherished goal of universalization of Elementary Education Government of Tripura has implemented Sarva Shiksha Abhiyan (SSA) Programme in 2001. The study mainly focuses on the impact of SSA programme on the status of primary education in terms of Net Enrolment Ratio (NER), Stagnation and Dropout, physical facilities available in schools and Students' Achievement.

Methodology

Multi-stage stratified random sampling technique was adopted. Thirty schools and 150 families were selected. It is an empirical study. Data were collected through three schedules on (i) General information of the schools. (ii) Physical facilities available in schools. (iii) Household survey. (iv) Students' attendance registrars and (v) Achievement test. Percentage, mean, median, SD, co-relation, Z-test, t-test, ANOVA were applied and quantitative analysis also done.

Major findings

(i) SSA programme helped to increased the NER and decreases the stagnation and dropout; (ii) there were no significant difference in the rate of stagnation and dropout among boys and girls; (iii) Physical facilities were improved after implementation of SSA programme; (iv) Achievement level of urban students was better than the rural students; (v) the co-relation between the physical facilities score and achievement score of students is 0.46; and (vi) Primary section attached with the High school and Higher Secondary schools showed better results in students achievements. (vii) Teachers were found to be trained although effectiveness of the training was not very clear as most teachers followed traditional methods of teaching. (viii) Use of computer and its possession was very much lacking, (ix) Library facilities need to be improved. With the implementation of the Right to Education Act.2009 the SSA programme and other projects of the Government Primary Education in West Tripura District will definitely try to reach the target of compulsory education of all children. It may also be recommended that the Junior Basic schools are to be upgraded for the universal elementary education in an integrated manner and the flexible sitting arrangement should be provided in primary sections attached with the High schools and Higher Secondary schools.

Environmental Education: ***Pro environmental Behaviour of Visually Impaired Students***

Title	A Study of the Locus of Control, Ecological Value and Environment Related Behaviour amongst Visually Impaired Students in West Bengal
Research Scholar	Dr. Pintu Kumar Maji
Supervisor	Dr. Madhumala Sengupta
Joint Supervisor	Dr. Debasri Banerjee
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2013
Availability of the thesis	Central Library, Calcutta University

The protection of environment is the solemn responsibility of every citizen of the country. The principle of inclusion in education requires that all types of students should get the opportunity of holistic education, which obviously includes citizenship training for the preservation of natural resources and social progress. The present study will not only clarify the relation among relevant variables but also develop new perspective on visual deprivation and environmentalism.

Objectives

The major objectives of the present study, are to find out the effect of (i) types of educational institution (inclusive and exclusive setting), (ii) types of visual impairment (low vision and fully blind), (iii) gender on locus of control (LOC), (iv) ecological value (utilisation and preservation) (v) environment related behaviour (ERB) of students with visual impairments, (vi) to explore the relationship between variables and (vii) to test the predicted model for ERB. The study also conducted an in depth analysis of the relationship among the variables by means of a few case studies.

Methodology

This study is a cross-sectional empirical study based on descriptive survey research design and mixed methods research approach. This is a *2x2x2 factorial research design based on* purposive sampling. The sample comprises 240 students, both boys and girls (with low vision and who are fully blind) ranging in age from 14-25 years and studying in general (inclusive setting) and special (exclusion setting) educational institution from class IX to XII from various districts in West Bengal. The researcher adapted the LOC scale (developed by Rotter, 1966) and ecological value (EV) scale (developed by Wisman and Bognar, 2003) while ERB scale was developed and standardized by the researcher.

On the basis of the objectives 17 hypotheses were framed. For the purpose of quantitative analysis of data, central tendencies, normality test, S.D., correlation, t-test, ANOVA and regression statistical techniques and path analysis were used. For the qualitative analysis (case study method) the obtained data were coded and categorised in to different constructs and concepts.

Findings

It was found that EV and LOC correlated (positive) with ERB. The major findings on the basis of objectives revealed that on LOC, EV and ERB, the students in general (inclusive) institution did better and also the students with low vision scored higher than the fully blind. No difference was observed between boys and girls student excepting in ERB scores. ERB could be predicted from LOC and preservation dimension of EV. The path analysis showed that the proposed model of ERB was a good fit. Qualitative analysis has further given an insight into this study.

Implications

The study supported the theoretical under pinning of the importance of the psychological factors in developing ERB. The study has also wide implication as it indicates that inclusive policy adopted in general institution is more effective in the context of environmentalism. Hence the policy makers, school authorities and decision makers need to include more specially abled students and provide for their special needs by organizing environment related activities and hands on experiences.

Developmental Psychology: *Parental Pressure and School Children*

Title	A Study of the Influence of Parental Pressure on Certain Psycho-Social Aspects of Development
Research Scholar	Dr. Veena Goenka (Poddar)
Supervisor	Professor Aditi Ghose
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2012
Availability of the thesis	Central Library, Calcutta University

This research investigates the difference in Moral Judgement, Social Maturity and Achievement Motivation between urban secondary school students from grades VI to IX, who experience different extents of parental pressure. Further it also investigates whether the parental beliefs about aims of education have any effect on the pressure that parents exert upon their children.

The investigation employed two questionnaires to measure parental pressure constructed by the investigator, and an intelligence test along with scales on Moral Judgement, Social Maturity and Achievement Motivation. The sample was taken from urban secondary schools of Kolkata.

Suitable statistical techniques were employed.

The study identified four perceptions of pressure –

- Parental Perception of Pressure on a Daily Basis (PPPD)
- Parental Perception of Pressure at Examination Time (PPPE)
- Child's Perception of Pressure on a Daily Basis (CPPD)
- Child's Perception of Pressure at Examination Time (CPPE).

It also identified beliefs of parents about the aims of education to be **status, knowledge, money** and **all-round mental development.** The study found that parents exert most pressure on their children on a daily basis if they believe knowledge to be the aim of education. Parents who believe in all-round mental development to be the aim of education exert the minimum pressure on a daily basis. At examination time, the priority for parental pressure changes. Parents who believe in status exert most pressure while parents who believe in all-round mental development exert minimum pressure. However, from the child's perception, whether on a daily basis or at examination time, parental beliefs about the aims of education makes no difference to the pressure exerted on them.

While pressure has been conceived of in different ways – PPPD, PPPE, CPPD, and CPPE, it was found by factor analysis that they could together account for a single variable which may be called Academic Pressure. The investigator further found out that Academic Pressure does affect certain psycho-social aspects of development significantly. It was found that Academic Pressure adversely affects moral judgement and social maturity. However, Academic Pressure does have a beneficial effect on academic motivation.

This research implies a cautionary note to parents and teachers. In particular, parents require reflecting on what they want from their child's education. Further, teachers require being observant so that the excessive pressure created by parents does not result in young adults whose moral and social development have been sacrificed at the altar of academic ambition.

Developmental Psychology: *Special Needs and Language Development*

Title	Standardization of a Normative Scale of Language Development for the Children with Mental Retardation
Research Scholar	Dr. Minati Saha
Supervisor	Dr. Debasri Banerjee
Associate Supervisor	Professor Pranab Kumar Chakrabarti
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2011
Availability of the thesis	Central Library, Calcutta University

Problem

The researcher has attempted to construct a language scale keeping in view the limitations of the existing scales used by special educational institutions for assessing and intervening mental retardation. This is a comprehensive scale of language development. It is constructed taking into account the important parameters on which language development depends. Verbal representation of concepts is the most significant criteria of language development as language is nothing but the explicit expression of the inner concepts. This proposed language scale will determine the child's level of cognition and language development simultaneously.

Objectives

i) To develop a normative scale to measure the language development of mentally retarded children in terms of concepts developed in association of language.

ii) To assess the pattern of language development among mild, moderate and severe levels of retardation

iii) To study whether the sequence of language development in mental retardation follows the same milestone of language development as followed by general child population (as per available research findings and test behavour.

iv) To study if the mentally retarded children can be classified on the basis of language score.

Tools

The tools consist two parts: the picture sets and the interaction schedule. The response verbatim was recorded and scored according to the scoring key. The items on the scale were selected in such a way that, for some items the students were stimulated to respond from experience or mental representations or images that have already been formed. In case of most items both picture stimulus and items in interaction schedule were used to elicit the response. Data was collected by face to face interview by the researcher after securing special permission from the special schools.

Sample

Total number of children was 137 out of which 97 were boys and 40 were girls from six special schools.

Findings

- This language development scale measures level of mental retardation with high reliability and validity.
- The scores obtained in this language scale can be use to classify mental retardation with greater efficacy and accuracy.
- There is increased anomaly in the sequence of language development with higher level of mental retardation.
- Mentally retarded children communicate mostly in telegraphic speech with delayed reaction time. They cannot communicate with persistence and echolalia is very common in communication.

Implication

- Most of the studies on special children have been conducted on sample consisting of four to twenty. In this context this study is conducted on comparatively large sample making generalization easier.
- Authentic first hand data for the assessment of mentally retarded children can be provided by this test
- Special educator or any other person having a general knowledge of test administration can use this scale of language development.
- The challenged children can be classified by the scale, so as to ascertain, his or her ability before admission to school in the inclusive environment.
- Information regarding the students' developmental capability from parents or any other secondary source are not required as student can be intervene directly on the basis of language and communication.

Higher Education: *Gender Stereotyping*

Title	Women's Access to Higher Education and Gender Stereotyping: a Case Study of the Post Graduates of Vidyasagar University
Research Scholar	Dr. Asish Kumar Dandapat
Supervisor	Professor Debjani Sengupta
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2013
Availability of the thesis	Central Library, Calcutta University

Obejective

The objective of this study is to examine how gender stereotyping dictates women's access to higher education in a rural University and subsequently their empowerment in personal, professional and social life.

Methods

Both primary and secondary sources of data are used for analyzing access to higher education and gender stereotyping. **Primary** data collected from 400 post-graduate male and female students (mean age 23 years) studying in Vidyasagar University. The distribution of participants across different faculties is: Arts (240), Science (120) and Commerce (40). Official enrolment record of post-graduate students in different streams of study from the period 1990 to 2007 served as the secondary source of data for analyzing access to higher education.

The research instruments used for this study were – Office records from the said university, four semi-structured interview schedules and one check-list for the post-graduate students.

Percentage, Moving Average Method, Growth Index, Growth Rate, Chi-square test and Modified Sopher's Disparity Index (MSDI) are used for analysis of data. Qualitative analysis is also made with responses to interviews.

Findings

1. Women's access to higher education for all social groups was characterized by clustering in the so called "feminine", "non-professional" and "non-market courses". On the other hand, other males' and SC males' access to higher education were characterized by clustering in the so called "masculine", "professional" and "market courses".

2. The age-old notion of gender division of labour still prevails which sets the priority of women's work outside home as secondary, whereas for men, work outside home is primarily for livelihood.
3. Both male and female students perceive that teaching jobs are the best option for females because it makes the multi-tasking of women easy.
4. A sharp contrast exists between male and female perception about the cult of human traits.
5. The period 1990-91 to 2007-08 witnessed an enormous expansion of enrolment of male and female post-graduates.
6. It has been more pronounced for females than males for all social groups.
7. Among the females of all the social groups, others (non- SC/ST) females are most prominent.
8. During the period 1990-08, gender disparity is higher in the case of SC than the ST social group in higher education.
9. Women's access to higher education for all social groups and ST science male's were characterized by clustering in courses that are either feminine, non-professional or having less job prospects whereas others males and SC males were clustering around the courses that have the higher probability of getting employment.
10. Gender stereotyping produces low self– esteem among female students in our society and higher education system is not sufficient itself for developing the necessary attitudes among today's young adults that are needed to succeed in a democratic country-where human dignity is respected.

Pedagogy of English: *Relative Effectiveness of Teaching Strategies*

Title	A study of the effectiveness of the Functional Communicative approach of teaching English as a second language in secondary classes
Research Scholar	Dr. Madhumita Chattopadhyay
Supervisor	Professor Mita Banerjee
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2010
Availability of the thesis	Central Library, Calcutta University

Introduction

English teaching methodology has undergone a significant change with the passing of time; methods, approaches and techniques are modified, transformed and developed to suit the demands and requirements of the students in the classroom. Communicative Language Teaching (CLT), the latest step in the ever-changing field of teaching methodology of English, develops on the ground of the Functional Communicative approach where development of communicative competence becomes the sole priority instead of emphasis on grammar and translation.

Objectives

The objectives of this work are to find out different methods that are used in teaching English as a Second Language in Secondary Schools, to analyze critically the merits and demerits of the available methods in their application in Secondary school-teaching, and, finally, to find out whether the Functional Communicative method is appropriate or not in the current perspectives of language teaching and changing social scenario.

Methodology

For first two objectives, information available from primary and secondary sources are analyzed critically following the methodology of historical methodology. For the third objective, an experimental study is undertaken where three hundred and sixty students from two single-sex schools and two co-ed schools are used for pre and post tests with three methods and three topics and efficacies of three methods are compared using the performance of the students in the tests.

Findings

Although the Functional Communicative approach is officially the current method of teaching English, the Grammar-Translation method is found the most widely used method of teaching English in Secondary schools in this state. The study shows that the Functional

Communicative approach is the most effective method of teaching English in most of the cases with little exception, while the Grammar-Translation method is also equally effective in many such situations. On the whole, these two methods give results which are significantly better compared to the Direct Method.

Conclusion

The study highlighted the modified version of CLT as a continuation of it and the Eclectic approach which can be more acceptable to the teachers of future generations as they are more concerned with the benefits of the students instead of success of a particular methodology in the classroom.

Philosophy of Education: *Integral Education*

Title	A Study on Sri Aurobindo and HisIntegral Education: Some Aspects
Research Scholar	Dr. Hema Datta
Supervisor	Professor Mita Banerjee
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2011
Availability of the thesis	Central Library, Calcutta University

The thesis is a study on the Integral education system having as its basis the philosophy of Sri Aurobindo. Sri Aurobindo's philosophy and his vision for mankind is often termed 'Integral' since he assimilates various strands of world view and integrates them to one coherent approach to human life and its spiritual aim. One of the most prominent aspect of Sri Aurobindo's philosophy is his vision of evolutionary mankind. His thesis rests on the premise that the human race is evolving towards a higher form of spiritual consciousness that would progressively elevate mankind to the status of divinity. The role of education, specifically, Integral education, is to hasten that evolutionary process. Since the aim of Integral education has a broad perspective, it recommends a holistic approach towards the child – an approach that embraces both material and spiritual ends.

This work explains and explores the role that each of the components of the educative process plays. The child, the educator and their environment are expected to work in perfect integration so that the overall aim of Integral education can be achieved. The argument is that there has to be a departure from the conventional educative process which considers the educator as the focus of the classroom. In Integral education, it is the child, or to be more precise, the spirit of the child that is the focus. A study of the practical aspects of Integral education is also made through detailed reference to institutions practicing such a system, especially in the context of the application of the system towards preparation of curriculum, classroom practices, co-curricular activities and moral education. The researcher has also put forward specific recommendations in the context of the applied aspects of Integral education so that the system can be practiced more effectively in the contemporary educational scenario in India. The researcher is optimistic that this system has great promise since it comprehensively deals with both the spiritual and material aspects of human life and existence.

Science Education: *Comparison of Science Curricula*

Title	A Comparative study of Physical science Curricula under different Boards of Education in West Bengal with reference to Science and Technology Literacy
Research Scholar	Dr. Kausik Chatterjee
Supervisor	Professor Aditi Ghose
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2011
Availability of the thesis	Central Library, Calcutta University

Science and technology Literacy (STL) is about awareness of science in our environment and everyday lives. It involves knowledge, positive attitude and communication skills related to science and general cognition of the relevance of science in modern life. It focuses on societal needs rather than on academic prowess alone.

Including STL in the science curriculum of the secondary school is essential. There are many science curricula operating in secondary school in India. An examination of these curricula will reveal the ones which are the most appropriate for nurturance of STL. This investigation has attempted to uncover this query through aligning itself to physical science curricula of CBSE, CISCE and WBBSE.

The stated objectives of these boards for class X were analyzed, and the actual reflection of these objectives in the approved tests was examined. The texts were also examined for reflection of STL objectives. Both stated objectives and STL objectives were found to be unsatisfactorily reflected in text books, the class X question papers of three boards reflected STL objectives poorly. This implied inadequate representation of STL objectives in the curricula of the three boards. However, from a comparative perspective, the CBSE curriculum showed better adherence to STL objectives.

The achievement of STL objectives of class X students was compared boardwise, and this was found to favour the CBSE students. Also, the development of STL from class VIII to class X was better in the case of CBSE students.STL wise, the CBSE curriculum was found to be more appropriate than CISCE and WBBSE boards.

Teacher Education: *Pro Environmental Behaviour of Teacher Trainees*

Title	Study on environmental awareness, self-efficacy and motivation of the teacher trainees in relation to environmental education and other selected external factors
Research Scholar	Dr.Sujit Pal
Supervisor	Dr.Madhumala Sengupta
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2012
Availability of the thesis	Central Library, Calcutta University

Objectives

The objectives of the present study are to find out the impact of environmental awareness, self-efficacy and motivational level of the teacher trainees in relation to their pro-environmental behaviour. The impact of other selected external factors like residential zone, bachelor's degree with or without environmental education, courses of study and professional status (pre-service and in-service) of the teacher trainees were also studied in relation to their environmental action.

Sample

The sample was drawn randomly from 10 NCTE recognised Secondary Teachers' Training Institutions (8 for final study and 2 for pilot survey) of West Bengal. Total number of trainees in the sample was 600 for final study and 160 for pilot survey. Stratification of the sample into categories and subcategories lead to a factorial design with two levels of gender (male vs. female), places of residence (high threat zone vs. low threat zone), bachelor degree (with or without Environmental Education), professional status (in-service vs. pre-service), self efficacy (high vs. low) and three levels of course of study (Science, Humanities and Social Sciences).

Tools

Tools used in the study are - A scale to assess the ecological nature of residential zone of the teacher trainees developed by Dr. M Sengupta and S. Pal , Environmental Action and Environmental Awareness Scales prepared by Prof. P.K.Chakraborty and M.Sengupta (2005), revised and restandardized by M.Sengupta and S.Pal, Motivation Towards Environment Scale, developed by Pelletier et.al (1997) and a scale of self-efficacy of the trainee teachers towards the Environmental Education developed by Dr. M Sengupta and S.Pal. The scale was adapted from the 'College Teaching Self Efficacy Scale' by Leonor Prieto (2006).

Statistical techniques

Apart from descriptive analysis, ANOVA and coefficient of correlation were done to find out the relationship among variables. Regression analysis was done to find out the predictability of the scores of different variables and Path analyses were done to form the probable models in relation to different variables under study.

Findings

The most significant finding is that trainee teachers' residing in high threat zone has higher level of environmental awareness than those residing in low threat zone but reverse type of result observed in case of environmental action. Bachelor degree with or without environmental education has a great impact on the environmental awareness but have no impact in case of environmental action. Gender factor has been found not to influence the environmental awareness but has a significant impact on environmental action. Pre-service teacher trainees are more aware about the environment than in-service teacher trainees. It is interesting to note that Environmental awareness is more akin to belief efficacy whereas environmental action is more akin to outcome efficacy. Environmental action shows maximum significant positive correlation with Self determined motivation. Most of the findings are consistent with earlier researches.

Teacher Education: *Transformation of Secondary Education*

Title	Role of Teachers in the Transformation of Secondary Education in Relation to their Attitude towards Curriculum, Administration and Teacher-Student Relationship
Research Scholar	Dr. Srabanti Mukhopadhyay
Supervisor	Dr. Debasri Banerjee
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2013
Availability of the thesis	Central Library, Calcutta University

The Problem

The system of secondary education is changing from time to time to meet the challenges of the environment and the present day society. This change is taking place through the three important aspects of education i.e. curriculum, administration and teacher-student relationship. Teacher plays a significant role in the process of educational changes. The performance of a teacher depends to a great extent on his/her attitude. The present study intends to explore whether the teachers are effective and active transformers of curriculum, administration and teacher-student relationship or whether they have a negative attitude towards the transformation that is taking place in present society and is getting reflected in the schools of West Bengal.

Objectives

- To estimate the attitude of teachers towards curriculum, administration and teacher-student relationship transformation of secondary education.
- To study whether there is any significant difference between male and female teachers in their attitude regarding curriculum, administration and teacher-student relationship transformation of secondary education.
- To study whether there is significant difference between teachers working in rural and urban schools in their attitude regarding curriculum, administration and teacher-student relationship transformation of secondary education.
- To see whether the period of teaching have any effect on the attitude of teachers regarding the transformation of curriculum, administration and teacher-student relationship of secondary education.

Tools

Personal Information Schedule was used for the study to seek information regarding the background of the teachers of the schools under West Bengal Board of Secondary Education ,Mukhopadhyay and Banerjee Attitude Scale towards Curriculum, Administration and Teacher-Student Relationship were used

Findings

The study reveals that there is a significant difference amongst male and female teachers regarding their attitude towards transformation of secondary education, changed curriculum and administration. Rural and urban teachers do not differ significantly in their attitude or opinion regarding transformation in the curriculum, administration or teacher-student relationship. Period of service does have an effect on teachers' attitude towards administration and total attitude towards transformation but not on their attitude towards curriculum or teacher-student relationship. There is a significant interaction effect of area of school and gender on the total attitude of the teachers towards transformation of secondary education. There is also a significant interaction effect of area of school and gender on the attitude of the teachers towards curriculum transformation and teacher-student relationship.

Teachers have positive attitude towards the transformation of secondary education. But there remains a gap between the policy and application in the actual field. Proper infrastructure of the schools, especially in rural areas is needed for the implementation of the different changes regarding curriculum and administration. Teachers want the changes but due to the said circumstances actual transformation is not going to be effected.

Women's Education: ***Contribution of Sister Nivedita***

Title	A Study on Sister Nivedita's Educational Philosophy and her Contributions Towards Women's Education
Research Scholar	Ramona Biswas
Supervisor	Mita Banerjee
Department	Education, University of Calcutta
Degree Awarded	Ph.D 2011
Availability of the thesis	Central Library, Calcutta University

Sister Nivedita or Margaret Elizabeth Noble (1867 – 1911) was the most sincere disciples of Swami Vivekananda. She wanted to bring about a re-orientation of women's education in India in the late nineteenth century. Swamiji's views and thoughts on Vedantic Philosophy largely impressed upon Nivedita. Swamiji invited her to come and work for the women in India. Nivedita came to India in 1898 and stayed in Calcutta. She rendered her unfailing service to the women of India till the last day of her life.

The Indian phase of Nivedita's life spanned a short period but whatever she did within this time, left a remarkable impression. There is virtually no major aspect of the emergence of modern India which does not bear her footprints. Swami Vivekananda's deep love for his motherland and his dictum – "there is no difference between service of man and worship of God" formed a keynote of her life.

Sister Nivedita felt that education was the key towards the uplift of women in India. The future of Indian women, she realized, depends upon education. To fulfill this aim, she opened a school for girls' in Calcutta on November, 1898. She advocated a National Education for Indian girls. She wanted to prepare the Indian girls in the line of Indian tradition absorbing the best of Western culture and knowledge. In her lifetime, the school she started, blossomed and became a pioneer institute for imparting value enriched education for women.

The researcher justified that Sister Nivedita still remains relevant in the field of women's education in India. Her school proves that even after the passage of hundred years, excellent academic results can be achieved based on the Indian values and traditions as Sister Nivedita aspired. In the era of rapid technological progress and onslaught of globalization, Indians need to delve more into the value based philosophy and education of Sister Nivedita.

Book Review[ϒ]

Challenged Children: Problems and Management[*]

Edited by Bishnupada Nanda[℘]

We have traversed a long way since the discovery of Victor by Jean Mare Gaspard Itard, his tireless efforts to educate the so called Idiot and consequent discord with Phillipe Pinel, emigration of his disciple. Edouard Seguin to U.S.A. and finally publication of his doctoral dissertation – *Idiocity and its Treatment by Physiological Method* in 1866. Perhaps the Seguin's book is the first systematic work on any disabled category which impressed not only the people of America but also the first Italian woman, Maria Montessori to receive a medical degree, who laboriously copied all the 600 pages of Seguin's book by hand. Montessori ultimately championed the cause of early education of pre-school children but the roots of her method were embedded in the methods suggested by Seguin. The early history of special education noticed a sudden spurt in the establishment of associations and organizations followed by many schools for the disabled children and then there was a decline in the enthusiasm primarily due to two reasons. Parents' expectation that their child will be cured was not fulfilled. The disillusioned parents withdrew financial support to these schools. The second blow came from an unusual corner, namely, a misinterpretation of Darwin's theory of natural selection. Many people thought that disabled people are inherently unfit for survival and therefore, it is wastage of money and energy to try to educate them.

In spite of a lethargic progress intervention programmes in a variety of forms had never ceased to be taken up totally. However, the contemporary interest in the disabled, persistent development of treatment, methods, research, institutional cares, etc. are all the outcomes of post World War II on advancement in science, technology and also the attitudinal changes. It is an undeniable fact that in India, our slumber en mass, broke only recently, although, scattered interest in the founding of special schools dates back to the early nineteenth century. The book under review has to be evaluated from that perspective.

The primary purpose of the book, as mentioned by the Editor, is "to develop a basic resource on the different types of special need children and their educational programme need to fulfill the information thirst of the parents, teachers, legislators, community

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[ϒ] Reviewed by Professor Pranab Kumar Chakrabarti, Formerly Dean, Faculty Council for P.G. Studies in Education Journalism , Library and Information Science, University of Calcutta

[*] **Published by**
Ankush Prakashan, Ashok Nagar North 24 Parganas, 2012, ISBN 978-81-926168-0-3

[℘] Dr. Bishnupada Nanda ,Assistant Professor, Dept. of Education; Former Joint Director and Course Coordinator, Centre for Counselling and Disability Study, Rabindra Bharati University, Kolkata, West Bengal members, political leaders, administrators and all the related professionals". Elsewhere, the question of rehabilitation and empowerment of the disabled people has been emphasized. As a reviewer, I must admit at the outset that this is quite an ambitious objective for any book, not only from the point of content coverage but also in terms of the type of treatment because different groups of people need different sets of information. Also, I should not hesitate to mention that the editor and his collaborating contributors have, by and large remained true to their commitment.

Before going into further details of the contents of this book I must recognize the uphill task undertaken by the editor *Dr. Bishnupada Nanda*, who not only compiled and edited so many articles from the various professionals and academics but also shouldered the responsibility of writing 10 out of 28 articles himself. This proves his dedication, versatility and deep knowledge into the subjects related to challenged people.

The inherent difficulty associated with compiling such a big volume lies in many facts. First while planning a book like this no specific readership can kept in view as it may range from common people (parents for example) to academics, professionals and even researchers. Second, the contributors belong to different professional groups, right from clinical and medical practitioners to teachers with theoretical orientation and therefore, their approaches are bound to be different. Third, the editor enjoys very little freedom or control over the authors to let them follow his preferred points of view about the presentation of the contents. Lastly, even after waiting till the last moment, an author may fail to send his or her promised article, when the editor has to fill the gap. In fact, all these difficulties have been reflected throughout the book.

Contents of the Book

The book is divided into Eight Sections, each section having uneven number of Chapters, depending upon the main theme. The first section has seven articles with focus on the history, community and parent involvement and rehabilitation. The first three articles are quite scholarly and the rest four are more or less informative. However, the lengthy treatment of the debate about whether Annie Sharp could be credited as the founder of blind school in India seems a little out of place considering the prime purpose of the book, although it will help the researchers in the history of special education. My main point is that the question of rehabilitation could be taken up for a more systematic manner. I cannot resist my temptation to mention here, to name the excellent book of Reinhard Kowalski on Rehabilitation, particularly, the three definitions of Rehabilitation, one each by Wolfensberger (1980), Bennett (1978) and Anthony (1981). These definitions, though, relatively older, provides us with what kind of approaches and perspectives could be ideal and also an insight into what ails or what is lacking in our endeavours for rehabilitation. In my opinion, the account of the facilities available for the disabled persons could better be linked with the legal provisions in Section Eight.

Section Two of the volume is about the hereditary and chromosomal disorders with an overview of basic terminology. The chapters are well written but the classification is not very clear. The unique feature of the first article is that normally we are accustomed to think of hereditary factors from the etiological perspective specific to any disability. Here the author has treated meticulously all hereditary and chromosomal disorders with comprehensive and rich information.

Section Three deals with intellectual impairment and related disorders. Most of the papers are more or less comprehensive. However, there is a classification anomaly because mental illness (mental disorders?) and problem behavior can hardly be assigned solely as intellectual impairments.

The section on sensory impairments is mostly comprehensive but whereas development of Braille letters has been given due importance, an account of sign (manual) language would have enriched the book further. Learning Disability along with specific learning disabilities of Dyslexia and Dyscalculia is discussed in separate chapters. In the same section Emotional Disturbance has been discussed although the definition of learning disability clearly specifies that such conditions are not due to emotional disturbance. It seems that the chapter on Problem behavior could go well with that on emotional disturbance because there is enough scope of debate over separation of many problem behaviours from emotional disturbance.

The miscellaneous section presents information about Talking books, some case studies and about how to talk to parents about the disability of their child. The chapter on case study is more an account of personal experience of the author as a clinical psychologist, probably intending to raise hope amongst the parents, but it appears not to have served any real purpose. A complete account of parent counseling, importance of their involvement at home and in school, ways of solving their daily problems would have been a better option.

As a whole, the books deserves high commendation and I do not hesitate to recommend it to all those who are interested in the subjects, the research scholars as a ready reference and to the teaches who, at present, need essentially to have knowledge about the disabled in order to realize the goals of RTE (2009). The praise also goes to the Secretary and other members, Arogya Sandhan Charitable Trust, a dedicated NGO in my locality, for their unique idea of serving the concerned people by providing with reliable and authentic knowledge they need primarily. Lastly, a little thorn pricks to cause a little uneasiness because of the mistakes in printing which could be avoided with a little care.

However, the authors and the editor should be careful in some articles.

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